The Iron Age Pottery of the Western Isles of Scotland, with Specific Reference to Loch na Beirgh, Riof, Isle of Lewis.

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Abstract

The excellent stratification found at the Iron Age site of Loch na Beirgh, on the Isle of Lewis in the Western Isles, Scotland, provided an opportunity to study the changing sequence of pottery throughout a considerable portion of the Hebridean Iron Age. This study analyses in detail the pottery assemblage from this islet settlement that began life as a Complex Atlantic Roundhouse and remained the focus of occupation for about a thousand years. The eleven excavated phases cover the early to late first millennium AD.

The principal aim of the thesis is to establish a sequence of ceramic change at Loch na Beirgh and provide a theoretical context for this sequence. The pottery assemblages from the excavated phases are characterised, and a sequence for the Beirgh assemblage is described. The rigorous statistical methodology used allows for a unique perspective through which to consider specific theoretical and archaeological questions from the Hebridean Iron Age. Change and continuity in the manufacturing processes, form, decoration and function of the assemblage over time are examined within the context of corresponding settlement and social change. Some explanations are provided for the changes seen throughout this period in meaning, function and significance of the pottery as an everyday tool.

This site-specific sequence is then placed into a wider context within the Hebridean Iron Age. Comparisons are first drawn from excavated contemporary sites known from within the vicinity of Loch na Beirgh on west Lewis, to provide a detailed pottery sequence of this micro-region. The sequence is then expanded to include other excavated assemblages from across the Outer Hebrides. The study utilises the now well known Iron Age settlement sequence in the Western Isles as a basis for determining ceramic change throughout this period and establishes an outline sequence for the pottery of the Western Isles.

"I declare that this thesis has been composed by me and that the work is my own. This thesis has not been presented for any other degree."

Signed: ....

Date: ......10-9-04..........

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To the memory of Ken Browell, with love.

"To most archaeologists their pottery is as a mountain, vast and unassailable: a challenge to be conquered"
(Millett 1979: v)

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0. Introduction

The Western Isles, or Outer Hebrides, consist of a long chain of islands situated off the west coast of Scotland. They are divided from the mainland by the Minch and measure about 150 miles from top to bottom. From north to south, the islands consist principally of Lewis and Harris, Berneray, North Uist, Benbecula, South Uist and Barra, with a host of smaller islands. The population today is about 30 000, with much of that concentrated in Stornoway on Lewis, the largest town on the islands (Armit 1996: 3).

The landscape of the Western Isles is distinct, largely treeless with vast tracts covered in thick blanket peat and dotted with small lochs. The highest mountains are to be found on Harris, with much of the rest of the islands being relatively flat. Shell sand, known as machair, is present principally on the west coasts of the islands, resulting in miles of white shell sand, active dune systems, and fertile land resulting from the machair system. The east coast is often dominated by rocky cliffs and the interiors of the islands comprise peat and lochs. This dichotomy is most striking on South Uist, where the island is practically split lengthways, the west side of the island effectively one giant beach.

The maritime climate is one which is mild and wet, and the islands are often subjected to very high winds. Although this means winters are more wet than icy, it means summer sunshine can be limited. The long summer days are replaced in winter by very short days providing only a few hours of light. It seems likely that the Iron Age population enjoyed a very similar climate to that seen today (Armit 1996). The landscape is dominated by water, whether through the dramatic waves of the Atlantic Ocean and the Minch crashing onto the beaches and cliffs, through the rivers, burns and lochs of the interior, to the vast sodden peat bogs and moors. It seems likely that in prehistory there was a strong relationship with water, as a source of food and as a means of transport around the islands. A mixed crofting economy persists into the present day, with a reliance on barley, sheep and fishing, and the cutting of peats for fuel.

The archaeology of the Western Isles is dominated by imposing stone monuments, from Neolithic stone circles and burial tombs, to the tower-like brochs of the Iron Age, to the more recent remains of longhouses known as blackhouses, forming post-Medieval villages and townships. There are also monuments concealed beneath the shifting sand dunes of the west coasts, such as Neolithic houses, Iron Age wheelhouses, Viking burials and large middens of all periods. The lack of intensive plough agriculture in the islands has ensured the preservation of many monuments. However, the flip-side of this is that many more monuments are completely invisible, buried deep beneath the peat, as for example at Calanais (Flitcroft *et al.* 2000, 2001).

Although the islands appear to lie on the fringes of the British Isles, it would be unfair to consider them as peripheral to the rest of the country, or even to Europe. It is apposite to analyse the archaeological development of the Western Isles as a separate unit, since the archaeological record ably demonstrates that they have a distinctive range of monuments which in many periods display different characteristics and sequences of archaeological development from that of the Northern Isles, Ireland and the west coast of Scotland. This is particularly true of the ceramic record. However, the islands were not isolated, and have many strong links to a wider province which has been termed the Atlantic Province (Piggott 1996; see also Armit 1996, Gilmour 2000), ranging from Scandinavia to France during various periods.

It has been recognised since the latter part of the nineteenth century that pottery in the Western Isles is plentiful and ubiquitous, present in great quantities in most periods of prehistory and history, often in startling contrast to the situation on the mainland of Scotland. For example, the Iron Age of mainland Scotland is largely aceramic, with the few assemblages that exist being very impoverished, whereas the Iron Age of the Western Isles is characterised by vast amounts of finely made and richly decorated pottery. This vigorous tradition of hand-made pottery continues in the Western Isles up until the early twentieth century, providing a unique opportunity to examine a very long-lived tradition, of which the most recent part still exists in living memory (the Barvas potters of north-west Lewis).

Since the earliest excavations in the Western Isles, it was also recognised that the pottery changes over time and distinctive types were believed to be associated with particular periods or architectural forms (e.g. 'Wheelhouse Ware', Scott 1948), indicating that pottery could prove useful as both a cultural indicator and a dating tool.

With the advent of a renewed interest in the archaeology of Atlantic Scotland in the last two decades, the Western Isles have become the research focus of both the University of Edinburgh and the University of Sheffield, the former concentrating on Lewis with its research centre at Calanais Farm, while the latter works principally on South Uist but has also included Barra and some of the smaller islands such as Mingulay and Pabbay. Along with the results from a number of other excavations over the last century by various institutions and individuals, for both research and rescue reasons, there are now a large number of sites surveyed and excavated, covering all periods, which are either published or nearing publication. These have greatly added to our understanding of the archaeology of the islands and have produced significant new pottery assemblages. However, despite the quantities of pottery available for study, research in the Hebrides has tended to focus on the structural sequence instead while pottery has more frequently been relegated to a culture-historical role as a dating tool. As a result, there has been a general lack of innovative thinking with regard to Western Isles pottery. It is clear that this thesis has great significance for moving along our understanding of life in the Hebridean Iron Age, and for interpreting its changing character. The role of artefactual, and particularly pottery, studies in the Hebrides have recently been summarised and reflected on by Ann MacSween (2002). Two of the main areas identified as requiring new research are:

- "A reassessment of the chronological sequence for the ceramics of the Hebridean Iron Age

- A more detailed consideration of fabric and technology in determining the nature of changes in the record."
(MacSween 2002: 150)

0.1 Aims of the Study

It is intended in this thesis to utilise the very long history of local potting within the islands to put these long term patterns of change within their settlement context, concentrating on the Western Isles as a geographical entity. This will cover the Hebridean Iron Age, spanning the later centuries BC through to the pre-Norse period. The aim of the current research is to look at the Hebridean pottery sequence and attempt to explain it in terms of the people living out their daily lives and using this pottery as part of their routines, domestic or otherwise. By taking an approach which gives equal weight to manufacturing techniques, decoration and form, and which traces change over long periods of time, it will be possible to determine 'a social archaeology of pottery'. Distinctions between fabrics and their origins are not sought here but are instead substituted by information on the technology and manufacture of the vessels, a more valid approach until extensive petrological work on the fabrics can take place. Hence, detailed thin section analysis is not included in this study.

The most fundamental question is, why should pottery change at all? If it performs its function adequately, then why change it? It is inescapable that pottery has a social role as well as a utilitarian role, and so establishing why pottery changes involves looking at the changing roles of pottery in a symbolic or social domain as well as its functional one.

The first process is to establish what constitutes the repertoire of pottery in use by the community in each phase (what one could call the contents of the kitchen cupboards), with the necessary caveat that the extant archaeological assemblage forms only a part of the original assemblage due to biased survival through mechanisms such as rubbish disposal patterns and secondary disturbance of deposits, as well as the fact that pottery vessels would have been supplemented by a variety of organic containers, some of which could have had overlapping functions.

Once this has been established, it is possible to approach the assemblage through a variety of avenues - functional, symbolic, and technological - by looking for aspects of continuity or change. These can be found in: methods of manufacture, including forming and finishing techniques; firing technology, as seen in firing profiles, colour and cracking patterns; function, through the shape of the vessel and its rim morphology, its size, and sooting and abrasion patterns; and changes in decorative techniques, motifs and position on the pot.

From this analysis it will be possible to distinguish patterns, such as any standardisation of particular vessel types and sizes, manufacturing techniques peculiar to specific vessel types or phases, any patterns regarding the areas of a pot deemed appropriate for different motifs, different vessels displaying different decorative motifs or styles, and the range and proportions of sizes and shapes present in different phases.

These patterns will provide information on cooking and eating habits, community size and their contacts, and the symbolism of pottery within the community. There are also other interesting questions, such as who made the pottery and on what scale was it produced? Was there any trade? What was the impetus to start decorating pottery in the Iron Age hand-in-hand with the inception of Atlantic Roundhouses, in marked contrast to the plain Late Bronze Age wares? By studying the pottery sequence on its own criteria, independently of the structural sequence, it will be possible to see whether any changes or other patterns in the assemblage accord with the structural sequence. It will be possible to determine whether changes in pottery technology or style are associated with changes in the nature of the settlement and so could be linked to broader changes in society, or whether pottery changes separately and at a different pace to settlement change.

A large assemblage is required to provide a large enough sample of sherds with distinguishing features, and for meaningful comparisons to be made between periods. In the Hebrides we are fortunate in having large assemblages of pottery in all periods to work with; the present research concentrates on a key site, Beirgh, due to the size and quality of this assemblage. Beirgh is on the Bhaltos peninsula on the west coast of Lewis. This islet site consists of a stone-built roundhouse, referred to as a Complex Atlantic Roundhouse, which was probably constructed in the later centuries BC and which remained the focus of settlement throughout the Iron Age.

A very detailed analysis of the Beirgh assemblage will be carried out and a pottery sequence determined, based upon the site's structural sequence. Once a sequence has been established, elucidating changes and patterns over time, themes springing from this will be examined.

Following on from the detailed work at Beirgh an appraisal will be made of the wider context, beginning with a number of sites situated in the vicinity of Beirgh at Dun Bharabhat, and Cnip on the Bhaltos peninsula and Bostadh on Great Bernera. This clustering of sites will be very useful to the study, in that while providing a virtually continuous overlapping settlement sequence, they are also in close proximity when looked at from the point of view of a sea-faring people. Though on land, the distances are large and the terrain rugged and difficult, by sea they would have been linked by a short boat journey.

This can be expanded out to the rest of the Western Isles to pursue other research angles - for example determining whether any differences in pottery assemblages occur between islands which could be used to perhaps extrapolate theories of tribal boundaries or other types of political entities, or infer other forms of contact and interaction.

0.2 Layout of the Thesis

Chapter 1 begins by providing a discussion of the period to be examined and the terminology which will be used. It also provides a brief outline of the archaeological record during the Iron Age of the Outer Hebrides in order to provide a wider context for the remains at Beirgh. The structural sequence of the key-site at Beirgh is then outlined. Chapter 2 then goes on to provide a literature review and critique of previous pottery research of the Hebridean Iron Age, identifying trends and new avenues of research. Chapter 3 outlines the approach to the assemblage and the methodology used in the analysis of the pottery from Beirgh. Chapters 4 and 5 provide the bulk of the data from this analysis: Chapter 4 describes the assemblage by phase while Chapter 5 describes the assemblage by vessel form. Chapter 6 discusses the results of the pottery analyses and provides a definitive account of the Beirgh pottery sequence. Themes brought up by the Beirgh sequence are explored in Chapter 7. Chapter 8 places the Beirgh assemblage into its wider context, both at a micro-regional scale in west Lewis and at a macro-regional scale throughout the Western Isles. Final conclusions will be drawn in Chapter 9.

1. The Site and its Archaeological Context

1.1 The Archaeological Context

1.1.1 Definitions

This section will provide a brief outline of the archaeological record during the Iron Age of the Outer Hebrides in order to provide a wider context for the remains at Beirgh. The Western Isles in the Iron Age are generally considered to belong to a wider Atlantic region, which includes the Northern Isles, the Inner Hebrides, the west mainland (particularly Argyll and the north of Scotland), and Ireland. This Atlantic zone, first defined by Piggott (1966) may be a region connected by the sea with its own range of distinct architectural forms, but there are regional variants within it in both architectural and artefactual terms, and so considering the Western Isles alone is a reasonable proposition.

Firstly, it is necessary to clarify the terminology to be used, particularly what is meant by the Iron Age, as this period varies somewhat in date from the rest of Britain, mainly due to a lack of Roman occupation. The period is generally accepted to begin in the mid-first millennium BC, though may also include the sixth and seventh centuries BC. The period ends with the arrival of the Vikings c. 800-850 AD. The vagueness in definition of the early part of the Iron Age is partly a consequence of the radiocarbon plateau during the first millennium BC. The period is divided into an early, middle and late period on the basis of structural changes which take place. For the remainder of this thesis I will use the term Early Iron Age to denote the period of construction and occupation of Complex Atlantic Roundhouses, from the mid-first millennium BC to the second or third century AD; Middle Iron Age encompasses the fourth to sixth centuries AD and the cellular form of architecture; Late Iron Age equals the 'Pictish' Phase of the seventh to ninth centuries, i.e. pre-Norse.

The term Complex Atlantic Roundhouse (CAR) is used to describe a set of buildings of particular form present in the Early Iron Age and peculiar to the Atlantic region of Scotland (although there are some outlying types, e.g. Fairy Knowe in Stirlingshire (Main 1998)). These buildings are massive, stone-built circular buildings, encompassing the more traditionally defined brochs, or any stone roundhouse in this province which has evidence for intra-mural cells and/or galleries. The term was coined by Armit (1985) as a means of escaping a long and turgid debate on the precise definition of the particular architectural attributes which made up a broch. A further issue revolves around the dating of the inception of Complex Atlantic Roundhouses (see for example Armit 1988c, 1990b, 1991, 1992, 1997; Hedges 1990; MacKie 1994, 1995; Sharples & Parker Pearson 1997; Gilmour & Cook 1998; Parker Pearson 1999; Parker Pearson *et al.* 1996; Parker Pearson *et al.* 1999; Gilmour 2000; Harding 2000). Occasional use is made of the expression CAR tower, to denote a structure where the evidence suggests a building of more than one storey. The term broch is still used in the literature as a shorthand, but there is no longer a desire to produce a definition and there is a general acceptance of the diverse range of architectural peculiarities the term encompasses. The term broch is preferred by some workers (e.g. MacKie 1997; Parker Pearson 1996; Sharples & Parker Pearson 1999).

The term Simple Atlantic Roundhouse (SAR) is used by Armit to denote a building without any intra-mural galleries at ground-floor level, thus encompassing, for example, the early substantial roundhouses of Orkney, such as Bu (Hedges 1987a, 1987b) and the earliest phase at Howe (Ballin Smith 1994). Although this implies a chronological distinction from the brochs with their intra-mural cells, the terminology is simply meant to demonstrate a distinction in architectural terms (Armit 1996: 115-116). However, without excavation it can be difficult to prove or disprove the presence of intra-mural cells. Roundhouses of the Late Bronze Age are beginning to come to light in the Western Isles, at Cladh Hallan on South Uist, and it could also be appropriate to refer to these as SARs. A discrepancy is present however, in that although the terms SAR and CAR are used to describe substantial stone roundhouses, the term does not include wheelhouses. Although Atlantic

Roundhouses must contain an element of monumentality to qualify, the internal monumentality of wheelhouses appears to be disregarded here.

Throughout this thesis the term Complex Atlantic Roundhouse will be employed in order to distance this research from debates about structural forms. Wheelhouse will be used to describe the specific architectural form containing radial piers with corbelling. The term CAR excludes all secondary structures which may be built inside CARs.

1.1.2 Structural Sequence

Simon Gilmour has recently produced a detailed re-analysis of the structural sequence throughout the Atlantic region along with a re-consideration of the dating evidence (Gilmour 2000). This sequence derives in part from the excavations at Beirgh, and so for the purposes of this thesis I shall follow Gilmour's structural sequence and concomitant dating. I will not reiterate the in-depth details of his argument here, but this sequence is not without its critics, particularly regarding the dating of CARs as noted above. In brief, this structural sequence is as follows (Gilmour 2000: 155):

1. From the early to mid 1st millennium BC, simple Atlantic Roundhouses were built (single storey).
2. In the later half of the 1st millennium BC, Complex Atlantic Roundhouses were built (multiple storey, can include outer defences and associated buildings).
3. Complex Atlantic Roundhouses were dismantled around the turn of the millennium and secondary roundhouses were often inserted. Wheelhouses were built in Shetland and the Western Isles at the same time, while there were clustered villages in Orkney.
4. In the 4th century AD these are abandoned and smaller cellular structures are built across the region.
5. In the later 1st millennium AD, figure-of-eight type buildings emerge.

1.1.2.1 Early Iron Age

The origins of Atlantic Roundhouses have been hotly disputed, with 1960's diffusionism and Belgic invaders subsequently being replaced by argument over internal origins emanating from the Northern or Western Isles. With recent excavations, origins are more reasonably being sought in the Late Bronze Ages of individual regions, particularly Orkney where the early dates of substantial Simple Atlantic Roundhouses (SAR) such as Bu (Hedges 1987) and the early phase at Howe (Ballin Smith 1994) suggest an early inception of the form. These early SARs are not present in the Western Isles and so the earliest dates for Atlantic Roundhouses here are in the third to second centuries BC (Gilmour 2000; Harding 2000), with Late Bronze Age circular buildings such as those at Cladh Hallan (Atkinson *et al.* 1996; Marshall *et al.* 1998) perhaps providing an antecedent, or perhaps indicating that the complex form of Atlantic Roundhouse was introduced from the north.

CARs then, are circular stone-built structures, with the potential for having more than one floor plus the use of intra-mural cells and galleries, providing a large amount of living and storage space (Fig. 1-2). Where internal features have survived, central hearths are common, and some division of space along radial lines seems likely. Common characteristics (though not necessarily all present on all sites) include a double-skinned wall construction, ground-floor intra-mural cells (Fig. 1-1) of varying number and size, often with a 'guard cell' located beside the entrance, rebates for bars behind the door, stairs located in the intra-mural cell opposite the entrance, a scarcement ledge perhaps for supporting a second floor, and exits to other floors through the intra-mural galleries. In the Western Isles they are often found in prominent locations (such as Dun Carloway) or on islets within lochs (such as Beirgh). A common characteristic of those located on islets are that their entrances are on the opposite side to the causeways connecting them to land.

The amount of wood required to floor and roof a CAR is substantial and so has been a topic for discussion, leading to interpretations that CARs were high status sites with access to precious resources. In the Western Isles at least, CARs were contemporary with wheelhouses but it is not clear whether there is any hierarchy of settlement (although this does not preclude the possibility of hierarchy *amongst* the CARs themselves, as there are, for example, variations in size and location of these sites; Gilmour 2000). The potential of CARs as defensive structures has also been discussed (e.g. MacSween 1985), implying some form of warfare was common in this period. However, the nature of the buildings – only one small entrance, no internal water supply, difficulties of getting animals inside, often located where they could be overlooked from higher ground nearby – suggests they were peculiarly unsuited for holing-up in and defending, and defence was likely not the prime reason for these structures. More recent arguments emphasise the monumental nature of these buildings, as a stone equivalent to the massive timber roundhouses of other parts of Britain (Armit 1996: 113), bold buildings making a statement, with perhaps an element of neighbourly rivalry.

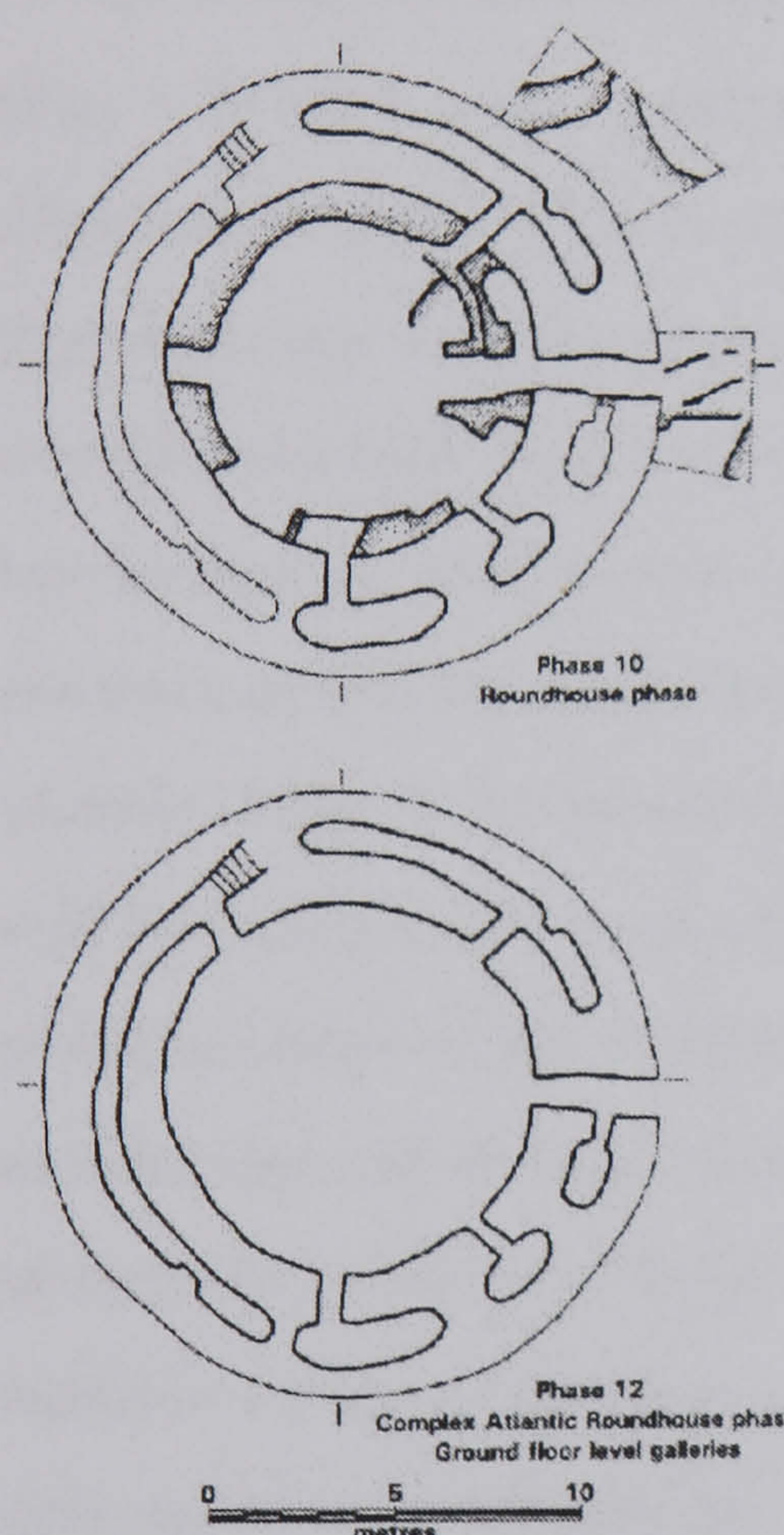


Figure 1-1: Plan of secondary roundhouse and primary CAR, Beirgh (Phases 10 and 12) (from Harding & Gilmour 2000: 7)

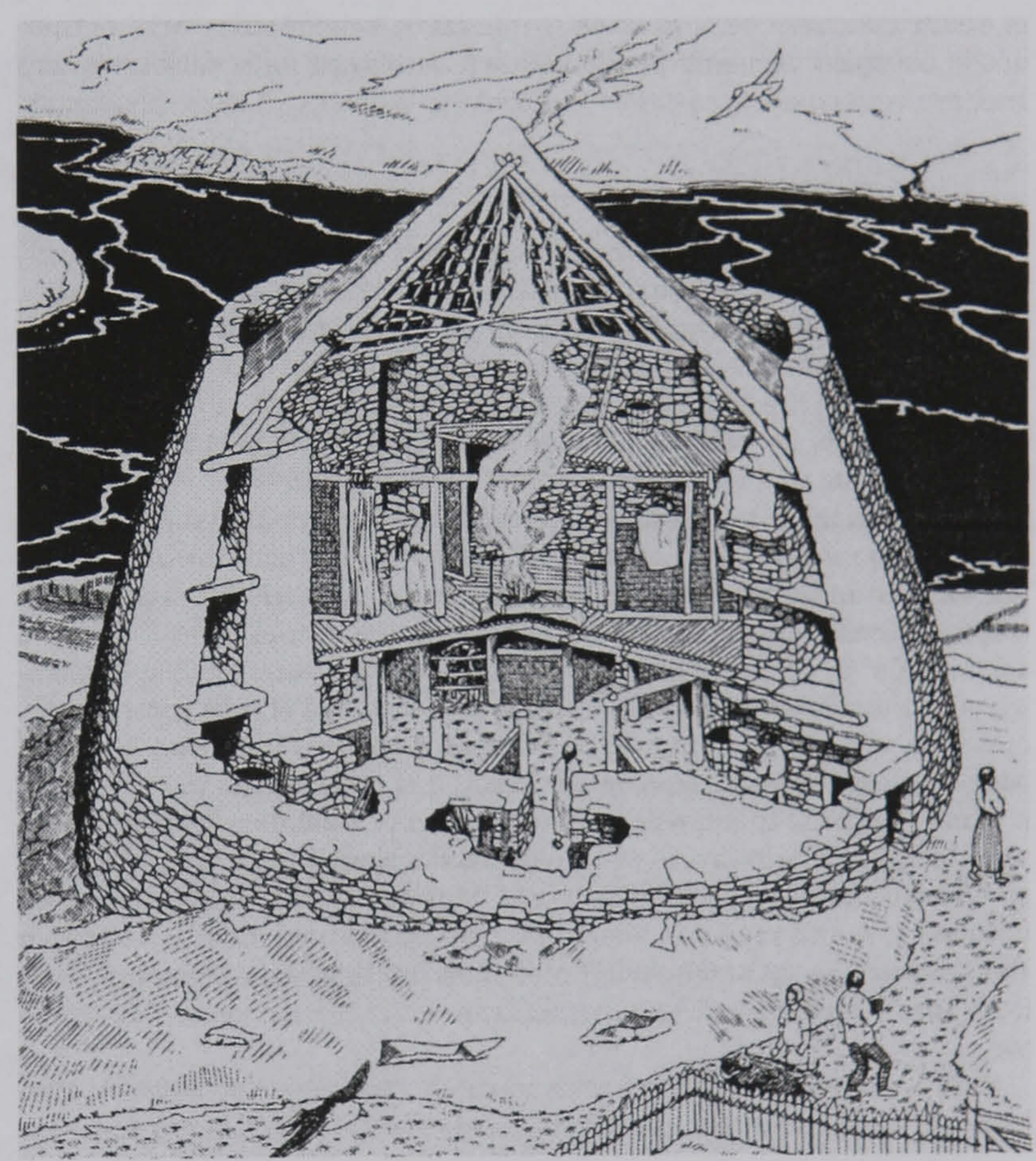


Figure 1-2: Reconstruction drawing of Dun Carloway CAR (from Armit 1996: 126, illustration by A Braby)

It appears to be a common trait of CARs that they continued to be the focus of settlement and indeed often incorporate a secondary roundhouse built inside the circuit of their walls (Fig. 1-1). These are present both in the west and north, for example at Dun Cuier, Barra (Young 1955), Scalloway, Shetland (Sharples 1998) and Dun Mor Vaul, Tiree (MacKie 1974). This seems to correspond to a reduction in height of the original CAR tower, and occurs in the early centuries AD (Gilmour 2000). In the north, this period sees a development of associated 'broch villages', cellular settlements of small structures clustering around the CAR tower, such as Gurness, Orkney (Hedges 1987a and 1987b). This trait is absent in the west, suggesting communities of different sizes and arranged along different lines of social stratification, although some CARs do have limited external structures, e.g. Beirgh (Harding & Gilmour 2000), Dun Mor Vaul (MacKie 1974), Dun Loch an Duna Bragar (RCAHMS 1928).

Wheelhouses were built perhaps in the last two centuries BC and appear to go out of use in the first and second centuries AD. Architecturally, they are very distinctive (Fig. 1-3): often sand revetted, they consist of a central open space with radial divisions formed by piers which in turn support corbelled roofs for each segment. A thatched roof would complete the roof over the centre. From the exterior they would have only their roofs visible and so were not as imposing as the CAR towers, but internally, although only one storey, would have been impressive spaces. Again central hearths are common, and the extensively excavated site at Cnip, on Bhaltos (Armit 1988b, 1996) would have been in use contemporaneously with Beirgh and will be discussed in more detail in Chapter 8. It has been suggested that the corbelled bays of the wheelhouse would have been used for different activities, such as sleeping and storage (Armit 1996; Campbell 1991). There is a concomitant shift in settlement location with the wheelhouses; their construction technique is especially suitable for sand revetting, and so settlement shifts to the machair zones, and islet sites are largely not utilised. There are examples of free-standing wheelhouses in moorland rather than machair (e.g. Clettraval, Scott 1948) but these appear to be exceptions.

Figure 1-3: Reconstruction drawing of Cnip wheelhouse (from Harding & Armit 1990: 88, illustration by A Braby)

Wheelhouses appear to have a significant ritual element incorporated into their construction, which seems to be in contrast with CARs, although it should be noted that there are no original floors of CARs yet excavated. At wheelhouses, some examples of this ritual behaviour include pits in the floor at Sollas containing animal deposits (Campbell 1991), a red deer jawbone hearth surround at A'Cheardach Bheag (Fairhurst 1971), and at Hornish Point a dismembered boy buried in four pits along with the remains of calves and lambs (Barber *et al.* 1989; Barber 2003). It may signify the continuation of a trend that may have been common in the Late Bronze Age; the excavations at Cladh Hallan, for example, have recently produced dog and human burials under the floors as well as apparently ritualistic deposits of smashed pots (Parker Pearson pers. comm.).

It has been suggested (Armit 1988c; Gilmour 2000) that the early centuries AD in the Western Isles see a change in symbolic expression through architecture, with a height reduction and focus on internal, rather than external monumentality seen in the construction of wheelhouses and secondary roundhouses, and perhaps linked to the concealment of ritual deposits under the floors of wheelhouses. It has also been suggested that the number of settlements increases during this period, perhaps reflecting a change in inheritance or the size of families living under the same roof (Gilmour 2000). From an alternative viewpoint, it has also been suggested that the impetus behind wheelhouse architecture was the scarcity of wood or the inability to acquire the vast amounts of wood needed for flooring and roofing a CAR (Armit 1996). The corbelling of segments of the wheelhouses reduces the need for long timbers, while single storey roundhouses do not require wood for upper floors. It is also possible that the reference point for competition and display shifts from resources external to the building to internal social status visible within the buildings (Armit 1996: 158).

1.1.2.2 Middle Iron Age

This period is characterised by a dramatic change in architecture in the third or fourth century AD; cellular forms dominate, consisting of clusters of small cells, possibly corbelled or with turf roofs. The reduction in available floor space is dramatic, and calculations based on Beirgh (Gilmour 2000; Harding & Gilmour 2000) indicate a reduction from c. 285m^2 for a 3 storey CAR, to just c. 25m^2 for the cellular phase. During this phase, around the middle of the first millennium AD, this technique is embodied at Beirgh by a particular 'shamrock' construction (Fig. 1-4); three linked cells surrounding a central area, with three-sided hearths specific to this phase, which often has an additional cell or 'souterrain' extending from it providing extra space, perhaps for storage (Harding & Gilmour 2000). The location of such settlements, built within the walls of previous structures, suggests that family lineages and ownership of land or other resources may have continued unbroken, and the importance of this stability in settlement location must have held considerable significance with regard to ancestors and knowledge of prior generations.

Other traits include the inclusion of aumbries in the walls, and a construction technique consisting of vertical slabbing with horizontal coursing on top, and threshold slabs between cells. The space inside each cell is very small, a major contrast to the vast spaces of Atlantic roundhouses and wheelhouses; again, it is likely that external monumentality was not an issue in their design, though they were certainly not monumental on the interior either. Each cell may have had a specific function, in much the same way as the radial divisions of a wheelhouse. There may also have been similar environmental constraints governing their construction; the lack of timber, insulation against wind and cold through their low relative height and sand or midden revetted construction within CAR walls. This transition is seen across the Atlantic region, for example Gurness, Orkney (Hedges 1987a and 1987b), Jarlshof (Hamilton 1956) and Scalloway, Shetland (Sharples 1998).

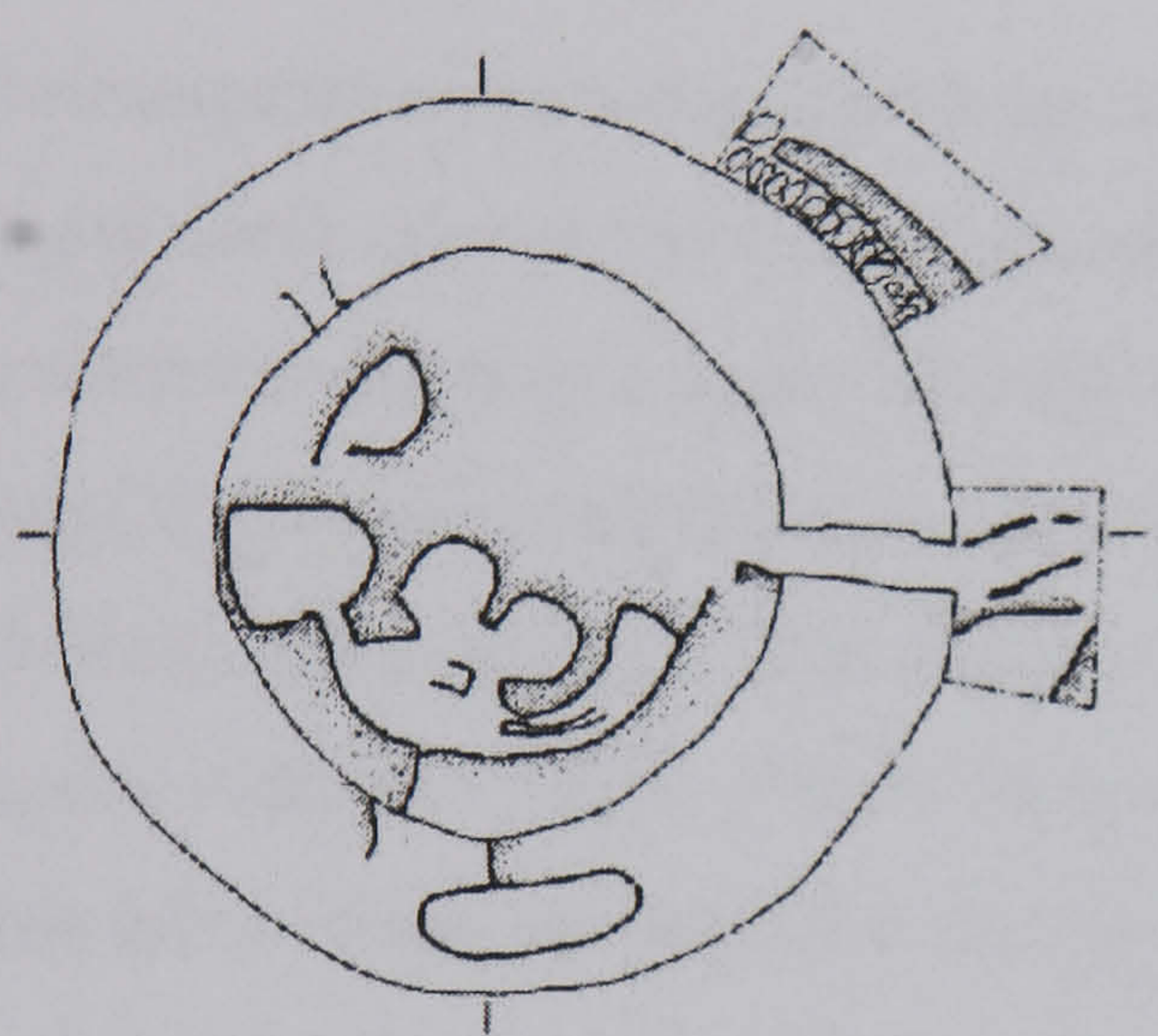


Figure 1-4: Cellular structures at Beirgh showing the 'shamrock' and 'souterrain' (Phase 6) (from Harding & Gilmour 2000: 6)

Gilmour (2000) has argued that this period may represent the appearance of a more coherent political system across the Atlantic region, the cellular type of structure used to define this entity, his reasoning being that cellular forms could result in a vast range of different settlement types, yet communities at this time repeat the shamrock form in many different areas across the region. This may be part of wider political changes evident across Scotland during this period, with the emergence of recognisable kingdoms for the first time, such as the Scots and the Picts. For example, in Argyll there seems to be an emerging hierarchy of settlement, with the fort at Dunadd, which has connections to early Dalriadic kingship and Ireland. Along with its exotic artefact assemblage and centralised brooch production it probably represented a political centre at this time (Lane & Campbell 2000). There are, however, no known equivalent sites in the Western Isles at present, and there are no specific documentary sources relating to the Western Isles. It is unclear whether the Western Isles belonged to the Picts or Scots or were an entity on their own right. A small number of Late Iron Age type objects found in the Western Isles suggests they may have been politically linked with the Picts (for example a possible painted pebble from Garry Iochdrach (Lane 1983)), but their location suggests they could have been influenced by both Scots and Picts and may have maintained an element of autonomy due to their distance from these other kingdoms.

1.1.2.3 Late Iron Age

A change in architectural form again heralds the beginning of this period around the seventh century AD. The cellular unit continues, but becomes larger and establishes itself in a figure-of-eight form (Figs. 1-5 and 1-6), as seen at Beirgh (Harding & Gilmour 2000) and Bostadh, Lewis (Neighbour 1996) and Buckquoy, Orkney (Ritchie 1977). This form is pre-Norse in date; settlement patterns change again with the arrival of the Vikings c. 800-850 AD thus restricting the time-span of this form. Some architectural details continue from the middle Iron Age, such as aumbries and vertical slabbing with horizontal coursing. These sites are most often located within the remains of earlier CARs in the Western Isles, such as Beirgh where the figure-of-eight is squashed inside the roundhouse, but are also known to constitute free-standing, sand-revetted villages, as at Bostadh. The lack of further excavated examples of this latter type is likely to be due to the burial of such sites in sand; the erosion of sand dunes at Bostadh Beach revealed the settlement there only recently (Neighbour 1996). Again, this revetting would have resulted in a low, non-monumental exterior, and although the interior is not on a scale comparable with earlier CARs, it is a larger space than the poly-cellular and shamrock forms.

Again, the form is consistent across the Atlantic region, but in this period sees the inclusion of Ireland for the first time (for example Deer Park Farm, Ulster: Lynn 1988), suggesting an expansion, formalisation or tightening of links within the Atlantic region.

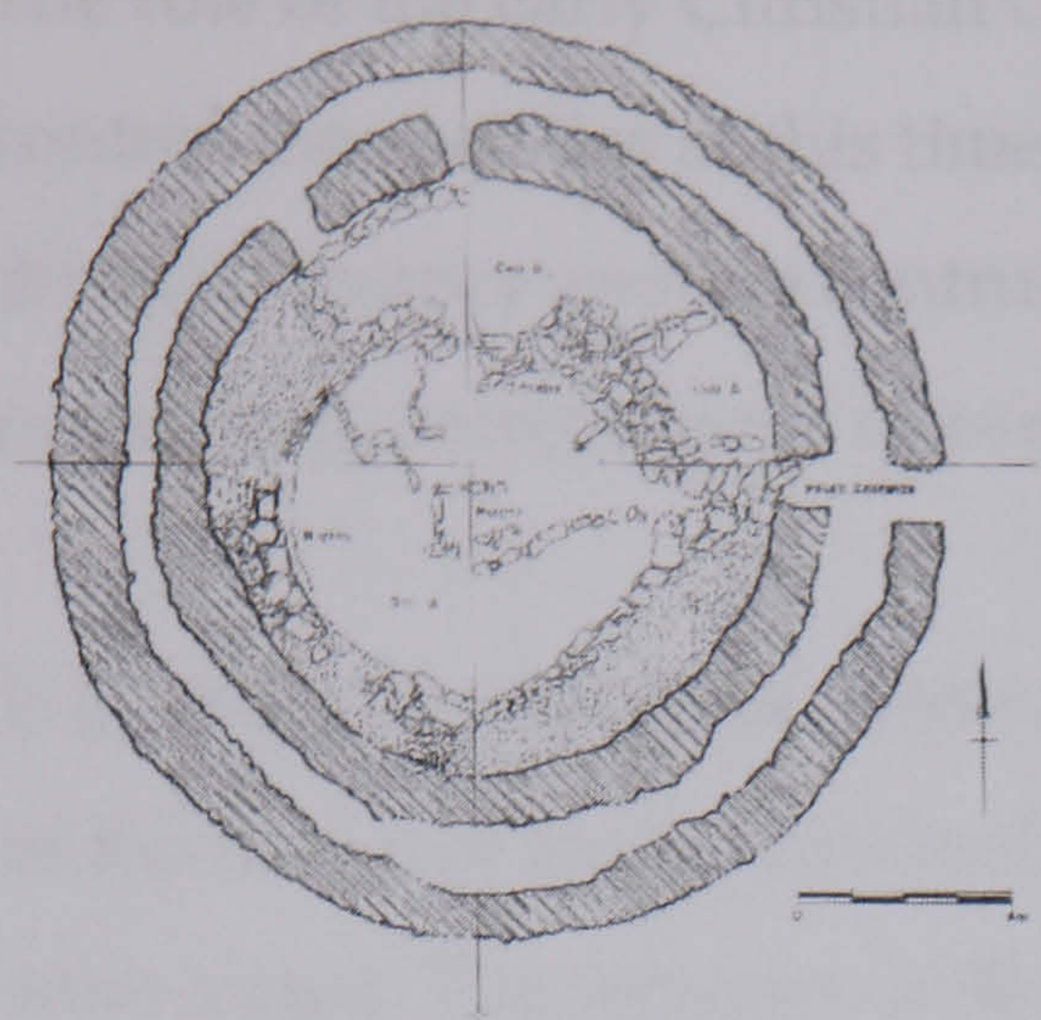


Figure 1-5: Final plan of Structure 1, Beirgh (from Harding & Armit 1990: 101)

Figure 1-6: The reconstructed figure-of-eight structure at Bostadh beach (photo M Johnson)

The artefact assemblages from this period seem to suggest an increase in decorative items such as jewellery and gaming equipment, in bone, glass and metal. These items tend to be for personal use or adornment, such as brooches and combs, and manifest themselves at sites like Beirgh as decorated bronze pennanular brooches and tweezers for example, while there are decorated combs at Bostadh (Neighbour pers. comm.) and Dun Cuier (Young 1955), and bone dice from Foshigarry (Beveridge & Callander 1931) and Bac Mhic Connain (Beveridge & Callander 1932). Some of these finds suggest long-distance contacts. Parallels for the combs and brooches are found in Ireland and for the tweezers in Whitby (Harding & Gilmour 2000).

Gilmour (2000) has suggested that the structural and artefactual evidence from this period indicates a well-defined hierarchical society, and that this period sees the development of a complex political entity, perhaps related to the expansion of Gaelic culture through the kingdom of Dalriada. The similarity of structural form over the Atlantic region indicates close contacts including with Ireland. He interprets the rise in personal decorative ornaments as indicating the increased importance of relationships of an inter-personal nature, reflecting more direct forms of political contact where the obvious display of status is all-important (c.f. Armit 1996). Communal identity possibly becomes less important, although society does still define itself through house forms.

The role of the early Christian Church would have been significant in defining and controlling societies at this time too, through legitimising kingships and élites, through literacy and the control of religious knowledge, and through the Church prescribing correct forms of everyday behaviour and worship.

It is clear then that these patterns of structural and societal change during the course of the Iron Age suggest a closely connected Atlantic zone, of which the Western Isles were a part. The sequence at Beirgh falls into this general pattern of structural development, although its precise status within its larger community at any point during the Iron Age is a matter of debate. The pottery from Beirgh will be an interesting and rewarding adjunct to these social changes.

1.1.3 Environment and Economy

Unfortunately, little is known of the domestic arrangements, economy and technologies of the Early Iron Age, largely due to a lack of excavated primary deposits associated with these buildings, and partly because much of the material we do have comes from older excavations where contextual information is less secure. It is clear that a range of artefact types were present, including iron and bronze-work, stone tools of various kinds, bone and antler tools, decorative items such as beads, pins and rings in a variety of materials, and of course pottery. The likelihood of extensive use of organic materials for containers, handles, and many other implements is attested by the range of finds from water-logged contexts at Beirgh and Bharabhat (Harding & Gilmour 2000; Harding & Dixon 2000), and leather and textiles must also have been utilised.

Environmental work and recent excavations at Calanais Farm, Lewis (Flitcroft *et al.* 2000, 2001), indicate that the Later Bronze Age was a time of changing climate, with wetter conditions prevailing. The lack of Bronze Age sites in the Hebrides (except the ongoing work at Cladh Hallan, South Uist) hinders any detailed examination of the processes involved, but the field system at Calanais Farm (Flitcroft *et al.* 2001) clearly demonstrates a period of contraction and abandonment of an extensive field system due to wetter conditions and the encroachment of peat growth. Armit's examination of the location of Atlantic Roundhouses on North Uist (1992) indicates a marked change in the preferred location for settlement, switching from inland moors to coastal machair zones; the machair soils are much more fertile and provide access to coastal resources while the interior was becoming covered in blanket peat and useless for much other than grazing. Armit further suggests that this contraction in settlement led to increased competition and territoriality, leading to "the construction of the Atlantic roundhouses as symbols of the local dominance and legitimacy of established Hebridean farming communities." (1996: 134). After contracting in this way, it appears that settlement did not expand again during the Iron Age and instead continued to be focussed on machair regions, and indeed structural forms like the wheelhouse specifically exploit the constructional properties of a sand base. Beirgh perhaps remained occupied for such a considerable length of time as it was recognised as being in a prime location.

More recently excavated sites of the Middle and Late Iron Age, such as Bostadh (Neighbour 1996), Cnip (Armit 1988b) and Dun Vulan (Parker Pearson & Sharples 1999), have yielded archaeobotanical and zooarchaeological evidence for economy through sampling, indicating a mix of arable and pastoral farming with utilisation of wild resources. Barley appears to have been the staple crop, with some smaller quantities of wheat, oats and rye present (M. Church 2002). Animals represented include sheep, cattle, pig, and red deer, with different proportions of each animal represented at different sites; for instance, the southern isles of the Outer Hebrides produce very little red deer bone, although antler is used, whereas sites on Lewis have a high proportion of red deer (Thoms 2003; Mulville 1999). Coastal resources, such as fishing and fowling, were important, with a range of sea birds, fish and cetaceans, including whale (Cerón-Carrasco 2003). Horse and dog are also present, with even the occasional oddity such as cat, badger and pine marten (J. Mulville 1999) and otter at Bostadh and Beirgh (Thoms 2003). There is some variation between periods which may be of significance, although the general picture is one of a relatively stable base of resources.

Nevertheless, it is clear from this brief survey of the archaeology of the Iron Age in the Western Isles that little work has been done on explicitly discussing the kinds of societies present and integrating the economic and artefactual evidence with the structural evidence. An over-emphasis on the structural sequence persists from early in the twentieth century. It is hoped that the present study will enable a fuller picture to be drawn from the wealth of evidence available to us.

1.2 Loch na Beirgh

The key site upon which the present catalogue and analysis is based is the later prehistoric settlement site located within Loch na Beirgh (alternative spelling: Berie), on the Bhaltos Peninsula, west coast of Lewis (Fig. 1-7). Excavations began here in 1985 and continued until 1995, under the direction of Professor D.W. Harding and latterly with Simon Gilmour. The structural and stratigraphic sequence has recently been published (Harding & Gilmour 2000), and so the purpose of this chapter is not to reiterate the detail of this site sequence, as this is readily available in published form, but to provide a general summary of the site for background and to put the present study in context, before discussing some of the issues specific to Beirgh which will impact upon the analysis and interpretation of the pottery assemblage.

1.2.1 Introduction

Beirgh is situated on what was originally a small islet within Loch na Beirgh (Fig. 1-8, Fig. 1-9), set within the machair plains behind the extensive beach of Traigh na Beirgh, and has upland rocky terrain on its fringes (Fig. 1-10). The loch is small and shallow, and is now heavily silted-up and reed-filled, with water only remaining on the western side. The islet is joined to the neighbouring high ground by a stone causeway on its western side.

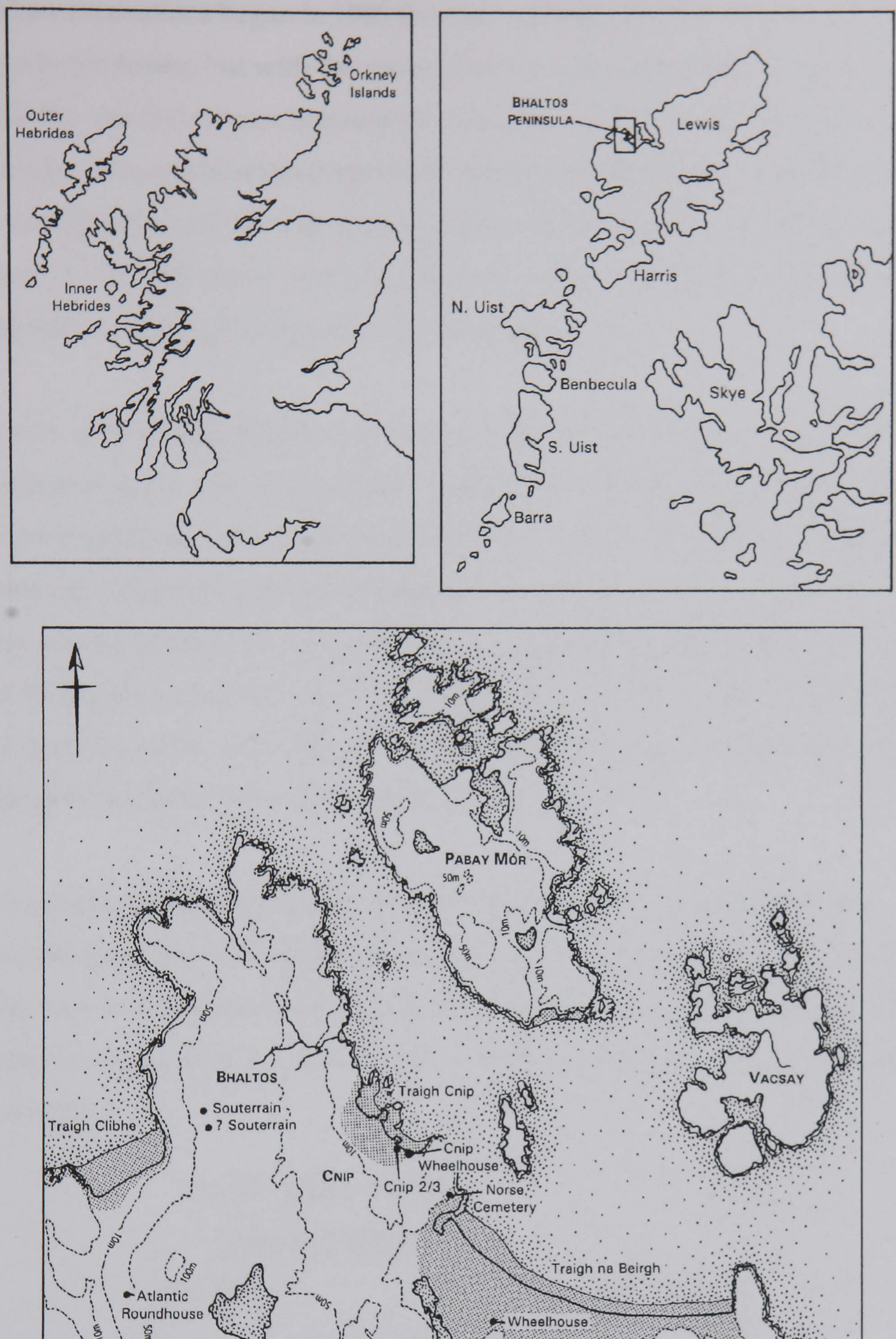


Figure 1-7: Location map of the Western Isles (from Harding & Gilmour 2000: 2)

When excavations began in 1985 the site had been identified by the RCAHMS (1928) as a broch tower, but with the removal of the turf and tumble it soon became clear that the site did not just represent the remains of a CAR, but that there were a number of secondary structures built inside its walls. There was then a further realisation that the modern ground level on the islet was in fact at the first floor level of the CAR tower, with the scarcement ledge on the interior and the floors of the first floor intra-mural galleries clearly visible.

It now seems likely that the loch has gradually filled in over a period of several thousand years. This long process of silting-up will have caused near continual waterlogging and inundation of the islet (Fig. 1-11), and as this islet remained the focus of settlement over some hundreds of years, to maintain a dry living surface the interior of the CAR had to be continually built up. This resulted in the buildings of successive occupations becoming layered on top of each other within the confines of the CAR walls, rather like a mini-*tell* [1], each using the structures and deposits of the previous settlement phase as the foundations for the next.

Due to this rising water table, the earliest deposits can be expected to be waterlogged, and indeed during the final season of excavation in 1995 waterlogged deposits were reached and organic remains were recovered, including wattling and wooden posts; there is probably still at least another metre or so of material to be excavated.

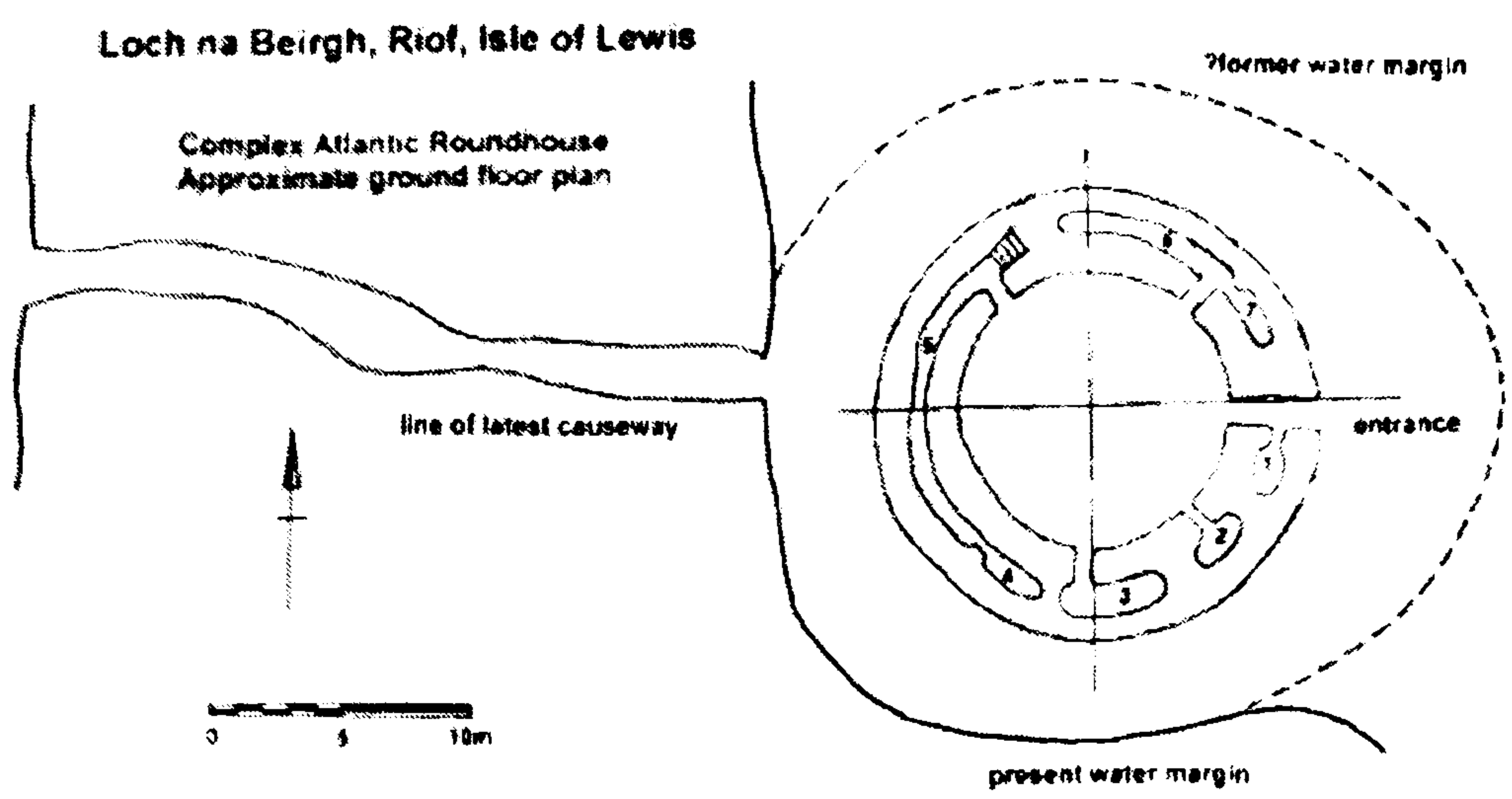


Fig. 1-8: Plan of Beirgh (from Harding 2000: Fig. 5)

[1] 'Tell' is the Arabic word for 'mound' and is used to refer to the large settlement mounds found throughout the Middle East.

Figure 1-9: Beirgh, with causeway visible in the foreground running through the reed-filled loch (photo M Johnson)

Figure 1-10: Beirgh in its landscape context (photo M Johnson)

Figure 1-11: The site continues to fill with water today, particularly during the winter (photo M Johnson)

Figure 1-12: The interior of Beirgh, Phase 5 (photo DW Harding)

1.2.2 Site Sequence and Dating

Beirgh has a complex sequence of secondary occupation built within the primary CAR walls. There are now 12 phases of occupation identified (Fig. 1-13 and 1-14), either completely or partially excavated, as well as an area outwith the CAR walls on the islet, with occupation spanning at least a thousand years from the mid-late first millennium BC to the later first millennium AD. The CAR could originate in the mid-first millennium BC or may be as late as the turn of the millennium, and as there is no Norse occupation on the site we can expect occupation to have ceased by about AD 800. Norse settlement is well documented in the Western Isles as occurring in the early ninth century AD: see for example Graham-Campbell & Batey 1998; Batey 1995.

There is a sequence of occupation, therefore, largely confined to the space within the CAR walls, which encompasses the Early Iron Age initial building of the CAR through to the pre-Norse Late Iron Age ('Pictish Period'), with each of the twelve phases superimposed on top of each other to provide perhaps 3m or 4m of deposits. An external area was also excavated, with its own sequence of phases. The earliest phase to have been excavated so far is the construction of a secondary roundhouse (Phase 10), whose wall is effectively a skin built against the interior wall of the CAR. There are tantalising glimpses of an earlier phase beneath (Phase 11) of which only a few features have been excavated, notably within Gallery 5. There may be other as yet unrecognised phases between these phases and the actual construction and occupation of the CAR in its initial form.

In summary, the sequence of structures as currently understood is as follows: the CAR construction and occupation comes first (Phase 12), followed by a secondary roundhouse built (Phase 10) inside which may itself have several sub-phases not yet recognised, and to which the external fragments of walling may belong. There may be phases between this and the end of the CAR's use not yet noted (perhaps represented by Phase 11). There then follows a Cellular Phase (Fig. 1-14) in the fourth century AD (Phases 9-5), where the dominant form of architecture on the site is a series of small cells, some of which were probably corbelled, containing hearths and other fittings; this phase has a number of sub-phases (Phases 9-5), which see different forms of structure and activity occurring on the site. Finally there is the Late Iron Age occupation, which again can be sub-divided into several discreet phases (Phases 4-0), consisting of figure-of-eight shaped cellular buildings squashed into the interior of the CAR (Fig. 1-14). The causeway which leads to the hilly ground at the edge of the loch to the west, the construction of a boat noost outside the entrance to the east, the contents of the galleries at first and ground floor level, plus some of the structures outside the CAR to the north, are all rather more difficult to place within the sequence of occupation but are likewise probably multi-phase themselves. The excavation is not complete and there may be other structures beneath the CAR.

The first floor galleries are visible at the present ground surface level, and were discovered covered in a great deal of tumbled stonework. The first floor gallery is continuous around the circumference of the CAR. Its floor consists of stone lintels but it has been suggested that they may have had either a timber floor or beaten earth floor (Harding & Gilmour 2000: 57). Access was reached by the intramural staircase opposite the entrance, which appears to have been blocked with the construction of the secondary roundhouse (Phase 10), preventing access from the interior of the building. However, depending on the height of the CAR's walls at this time (the walls may have been robbed to provide building stone or simply to reduce height in a response to diminished monumentality as discussed above) it may have been possible to access the gallery from the exterior, by ladder or as today by simply clambering over the outer skin of the wall, just a few feet high above the present ground surface. If access was possible, then the gallery may have been used for storage, rubbish disposal, latrines, or may have been roofed and used as work areas or additional living space. The deposits excavated from the lintelled surface give little clue at present. The galleries may eventually have gone out of use altogether because of being blocked by tumbled stone, though whether this was during or after the occupation of the site is unclear.

There are a number of radiocarbon dates available, but for a site as complex as this a further suite of dates would be particularly useful. However, they do indicate that the excavated occupation levels span the majority of the first millennium AD, and accord well with the lack of Norse evidence on the site and with current thinking on the date of construction and use of CARs in the latter part of the first millennium BC. Dating is discussed in further detail in Chapter 8.

1.3 The Significance of Beirgh for Pottery Analysis

The remarkable preservation and long sequence of occupation seen at Beirgh has wide implications and its pottery assemblage is especially significant for our understanding of Iron Age material culture. The unparalleled existence of a stratified sequence of occupation that probably covered a thousand years and had no obvious periods of abandonment, will have an enormous impact on our understanding of the ways in which domestic architecture and organisation changed over time. The corresponding artefactual and ecofactual assemblages from the site may provide a datable type-sequence for the Western Isles as a whole.

Beirgh provides an excellent opportunity for a typological analysis of the changing pottery assemblage over time, allowing the refinement of the sequence to a point whereby it will be useful for providing a method of dating other sites through ceramic characterisation. Beirgh's longevity of occupation provides a choice of distinct periods, with their associated pottery, which can be directly compared with one another and with other sites, from which a picture of the social function of pottery can be gleaned.

Beirgh can be seen to encapsulate, through the longevity of its re-use and occupation, a microcosm of the more widespread structural changes happening throughout the Western Isles in the Iron Age, making the site particularly suitable for pottery analysis.

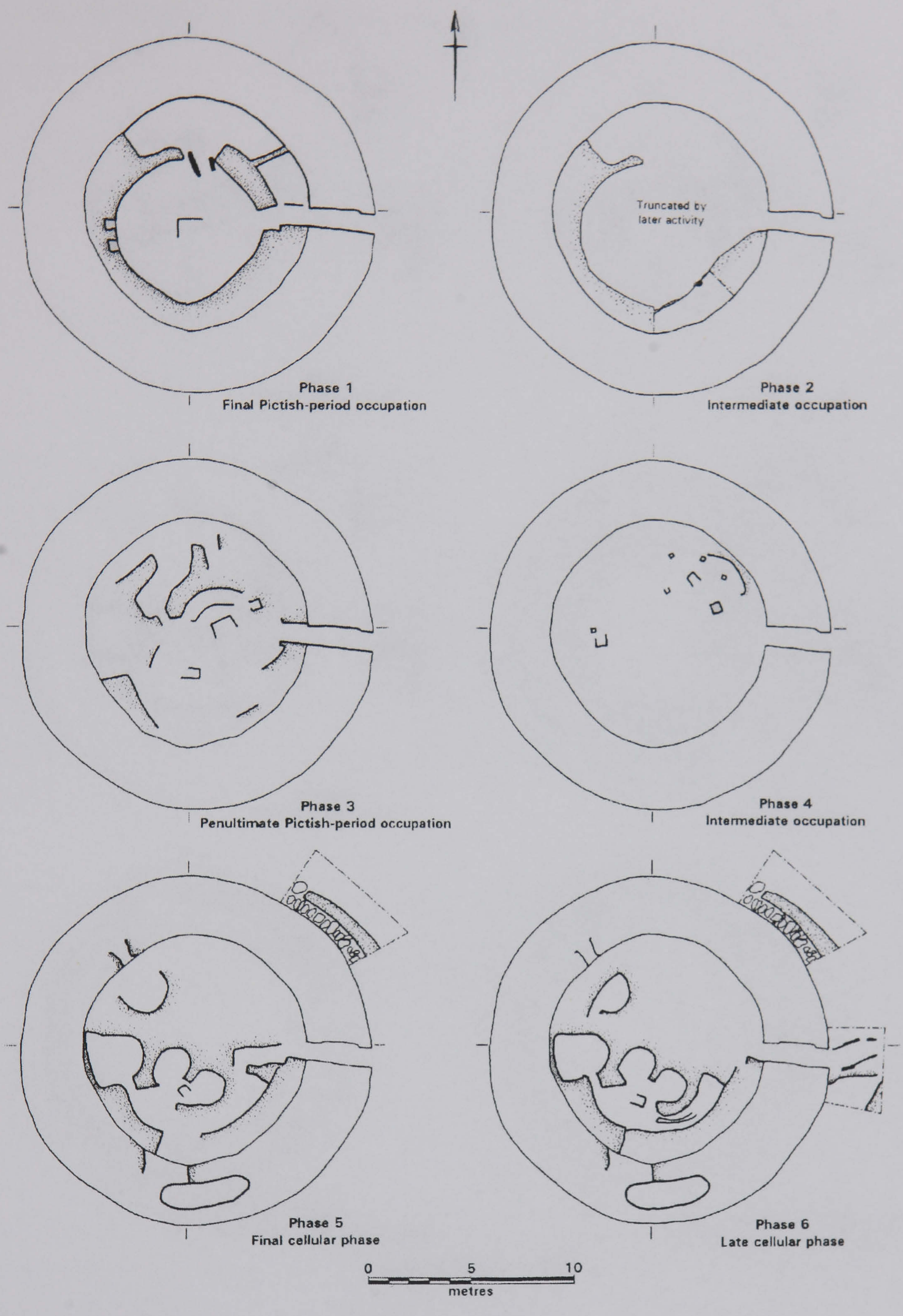


Figure 1-13: Beirgh, Phases 1 to 6 (from Harding & Gilmour 2000: 6)

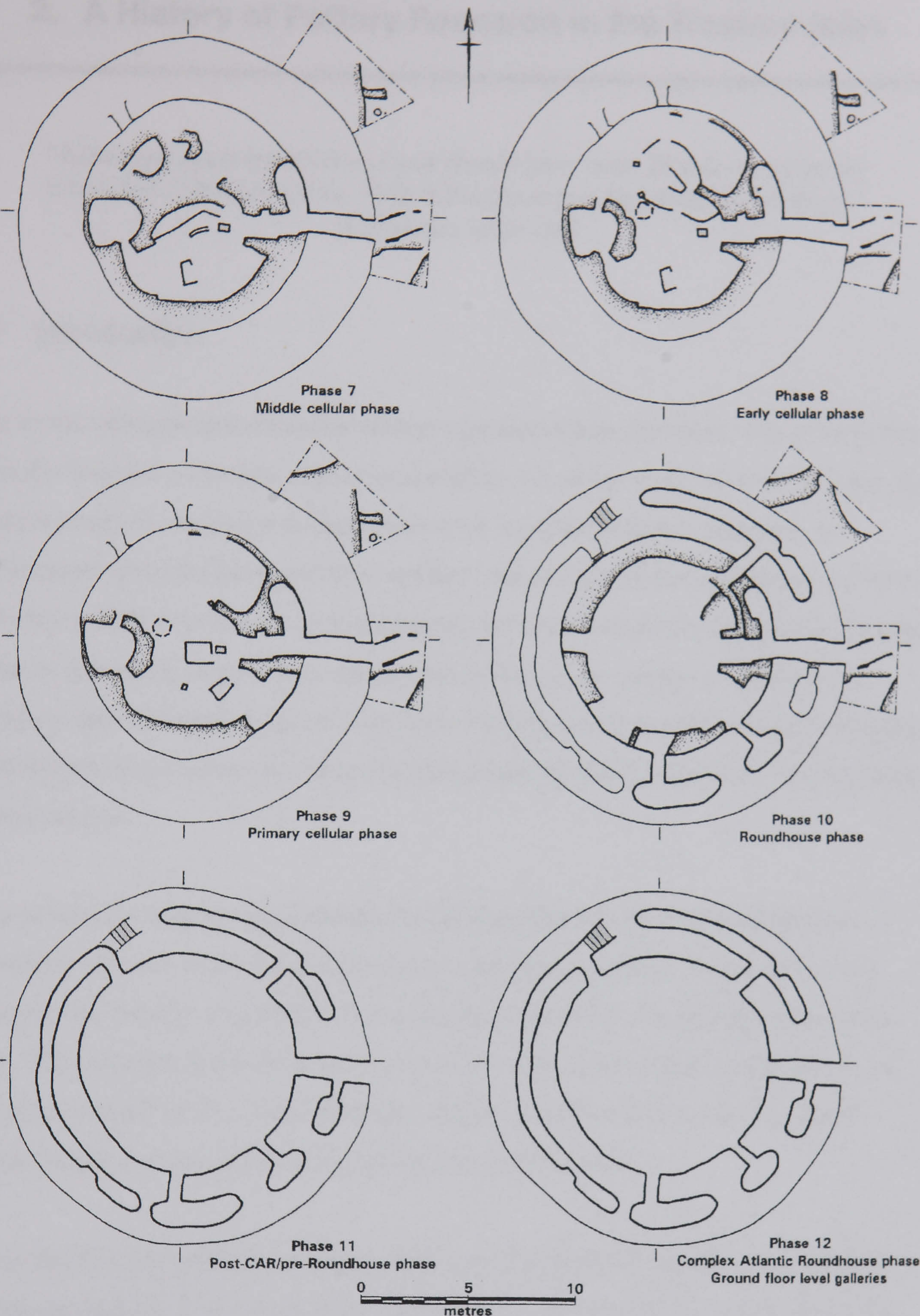


Figure 1-14: Beirgh, Phases 7 to 12 (from Harding & Gilmour 2000: 7)

2. A History of Pottery Research in the Western Isles

"Although great quantities of pot sherds have been found on anciently inhabited Hebridean sites, little is known regarding their chronology."
(Callander 1921: 129)

2.1 Introduction

Due to the richness and diversity of Iron Age Hebridean ceramics, this pottery has been the focus of a number of previous studies. Consequently, in order to place the present study in context, it is important to be familiar with this dialogue, to understand why and how previous studies took place and the importance of their outcome within the broader archaeological context. It would be arrogant to dismiss much of this work simply because it is out of date or no longer fashionable to interpret the evidence in a particular way. It is important to acknowledge the place of these previous studies in our continuing understanding of pottery development on the islands.

To provide a context for discussions throughout this thesis, which will make repeated reference to previous analyses of Hebridean pottery, this chapter will rehearse the history of pottery studies relating specifically to the Hebridean Iron Age. The purpose of this chapter then is to provide an overview of the history of ceramic research in the Outer Hebrides which will pinpoint trends in pottery research there, and identify any gaps or recurrent themes.

These studies have also taken place at the same time as developments in pottery studies in general. The nature of pottery studies has been subject to considerable change over the last century as theories and techniques of analysis have developed, and the emphases and research objectives of ceramicists have developed hand-in-hand with wider archaeological concerns, so it is not possible to view these changes in pottery analysis separately from archaeology as a discipline. Therefore, an overview of the major shifts in ceramic analysis over the last hundred or so years will be given alongside discussion of the research carried out by individual archaeologists.

2.2 History of Research

2.2.1 Early Studies

Archaeology was in its infancy prior to the mid-nineteenth century, and much of the interest at this time came in the guise of curiosity seekers. Prehistoric or, more commonly, Classical and Medieval ceramics were collected for their value as curios and were appreciated as works of art which would have been displayed in the private museums of wealthy collectors as well as public museums. This 'art-historical phase' (Orton, Tyers & Vince 1993: 5) continued through much of the nineteenth century, and impacted upon initial attitudes towards Hebridean pottery.

The Western Isles were 'discovered' in the late seventeenth century and described in a contemporary account by Martin Martin (MacLeod 1994), but it was not until the second half of the nineteenth century that scientific and tourist expeditions occurred regularly, with the advent of rail links and the steam ship. There are numerous accounts from this period (e.g. Mitchell 1880, 1897) recounting the extraordinary and unusual (to a modern Victorian eye) buildings, customs, superstitions and economy of the Gaelic-speaking islanders. *The Past in the Present* by Sir Arthur Mitchell (1880) sets the tone for how the Western Isles would be viewed as a 'cultural backwater' until as late as the 1930's (Curwen 1938), and it was believed by many, Mitchell being the main proponent of this, that the islanders could provide insights into prehistoric ways of life, much in the spirit of many anthropological expeditions at this time.

Within this context, it was natural that the hand-made pottery still in use by the islanders (craggans) should be highly desirable collectors' items for their 'primitive' nature, and two of the most prolific early collectors were Captain Thomas and Arthur Mitchell. This interest spurred on a novel adaptation by the island potters, producing new forms of pottery specifically for this tourist trade known as Barvas

Ware (Cheape 1988, 1993).

Very little attention, however, was focused on archaeological material retrieved from excavations, and early excavations in the Western Isles tended to be carried out on the whim of the landowner on monuments within their estate, much as it did elsewhere in the UK. These early excavations concentrated on those monuments which were highly visible in the landscape: mainly the monumental buildings of the Iron Age, and the chambered tombs and stone circles of the Neolithic. Some of the first systematic excavations were carried out by Erskine Beveridge, who undertook numerous excavations and surveys of archaeological monuments, principally on his estate at the Vallay Strand, North Uist (1905), although he also conducted work on Coll and Tiree (1911).

Two main contributions to archaeology at the end of the nineteenth and beginning of the twentieth centuries led to the demise of pottery collected purely for aesthetic or curiosity reasons, and the beginning of pottery and other artefacts being collected for their archaeological worth as dating tools and cultural indicators.

The first of these was the development of typological classifications as a result of Montelius' work (Trigger 1989). It began to be appreciated that pottery, along with other artefact types, changed through time and so could be used as a dating tool. This work began with archaeologists such as Pitt-Rivers and Flinders Petrie (Trigger 1989), who appreciated the value of artefact typologies to dating. Using the principles of stratigraphy and association, relative dates for site sequences could be established, and cross-dating utilised to link sites and build up longer sequences. The definition of types became all-important in artefactual studies, with the identification of changes in these types over time the guiding principle behind their use for dating. The theory of 'simple to complex' was predominant in establishing these typologies; this states that there is a linear evolutionary pattern to artefactual change, with simple types always being earlier and developing into more complex types, a theory grounded in Darwinism and the then new science of genetics.

The second, slightly later, major theoretical contribution to this era was V.G.

Childe's definition of archaeological cultures.

> "We find certain types of remains - pots, implements, ornaments, burial rites, house forms - constantly recurring together. Such a complex of regularly associated traits we shall term a 'cultural group', or just a 'culture'."
> (Childe 1929: vi).

With this ground-breaking definition came an ability to talk about archaeological cultures, the identification of which allowed their histories and development to be traced, their distributions to be plotted, and their influences to be identified and tracked. This formed the basis for culture-historicism, which radically changed the way archaeologists thought about prehistoric peoples. However, an unfortunate side effect was that, instead of taking a recurring set of traits to define a culture, as designated by Childe, archaeologists tended to use one main cultural indicator as representative of the whole, and this was often pottery. There began a long-lived tradition of equating specific types of pottery with specific groups of people, the 'pots as people' paradigm. Pottery became an indicator of actual human cultures rather than archaeological cultures, and hence was used to plot the distribution and movement of peoples (for example the Beaker Folk, an idea which has been difficult to shift from archaeological discussion). This difficulty of divorcing the meaning of an archaeological culture from that of a living human culture is one that can still be encountered today.

Although diffusion was the common way of explaining the appearance of new cultural traits, diffusion has two subtly different meanings: it could be taken to mean actual population movement, or simply the adoption of cultural traits through contact between peoples. Invasions and colonisation were generally the explanations given for any new archaeological material, particularly in the years between the wars and in the aftermath of the Second World War. This is a good example of contemporary events influencing archaeological theory. This is suitably illustrated by Childe's *The Prehistory of Scotland* (1935), where colonisers or invaders are credited for the arrival of, for instance, farming, Beaker pottery and brochs. Hand-in-hand with diffusion came the notion of a time-lag in dating; if, for example, a cultural trait such as Beaker pottery appears on the continent at a specific period, and is also identified in Britain, then a time-delay is invoked to allow for the diffusion of this trait across Europe, giving a date for its British appearance some centuries later than its continental appearance. There was even a time-lag invoked for material going south to north within the British Isles. This resulted in a very compressed chronology for the British Isles, centuries later than equivalent periods on the continent, and perpetuated the idea of Britain, and particularly Scotland, being on the fringes of European developments. Diffusion through invasion was a potent force in archaeological thinking until Grahame Clark's seminal paper "The invasion hypothesis in British archaeology" (1966) fundamentally challenged this theory.

As stated then, pottery typologies at this time were used primarily for dating purposes, with parallels being sought for the origins of specific types or elements of a type, and diffusion providing the time-lag to give dates for their appearance. This led to a compression of chronology for those areas at a distance from the supposed source of the trait; for example, farming in the Hebrides was not thought to have arrived before c.2000 BC in order to allow for the migration of people over generations. Typologies also tended to be constructed along evolutionary principles, the principle being development from simple to complex to degenerate, enabling types to be slotted into sequences even when there was no independent dating evidence or stratigraphy available.

The first attempt to construct a pottery typology in the Western Isles began with the Neolithic and Iron Age material and Sir Lindsay Scott's numerous excavations. Scott excavated an Iron Age wheelhouse at Clettraval, North Uist, in the 1940's (Scott 1948). With this excavation he aimed to resolve the development of wheelhouses and their place in the settlement record of Atlantic Scotland. From his excavation, he constructed an Iron Age pottery sequence which he could tie in with his structural stratigraphy by recording pottery by its height below a site datum and later relating this to floor levels (Scott 1948: 117). He recognised the problems associated with later disturbance and that the assemblage was incomplete due to "the constant sweeping" of the building (*ibid.*: 56-7). He undertook what he describes as a statistical analysis of the pottery, which can be seen as a fairly modern attempt at analysis, whereby he divided the pottery into broad stratigraphic strata and counted the occurrence of specific traits within these blocks in order to produce a sequence over time (*ibid.*: 117-120). The site was divided into five main phases: an early use relating to the wrecking of the Neolithic tomb, two phases relating to the occupation of the wheelhouse, and two phases of post-abandonment occupation.

The pottery sequence Scott reached was as follows. During the use of the wheelhouse, the dominant pottery form was globular pots with four identified rim types: sharply everted rims (the predominant type), bead rims, short everted lips, and inturning cups (*ibid.*: 60). Impressions and incised geometric decoration (chevrons, zigzags, lattices, ladders, hatched ribbons and triangles) were used throughout both sub-phases of the wheelhouse occupation, though it became "poor and undistinctive" (*ibid.*: 120) in the latter phase, while stamping and raised bosses were only in use during the first phase. Wavy cordons began in the early phase in conjunction with channelled decoration and it is this combination of traits which became known as Clettraval Ware, seen for many years as associated only with wheelhouses. Channelled decoration ceased after the first sub-phase of occupation while cordons continued to become the predominant decorative technique in the second phase, combining in some instances with horseshoe/circular applied motifs (*ibid.*: 120). Sometimes the interior of the base was decorated with fingertip impressions.

Undecorated straight-sided bucket-shaped vessels became the dominant type during the two phases of secondary occupation at Clettraval, with simple flattened rims and some long flaring rims. Some globular everted rim vessels continued to be present but the decoration was restricted to cordons. Scott saw this as indicative of social degeneration (*ibid.*: 65).

Scott derived these pottery types from north-western French and south-western English late La Tène types, brought to Scotland by Iron Age 'B' immigrants from southern Britain (*ibid.*: 60-65), a common belief at this time (see also Childe 1935, for example). He dated the beginning of his Iron Age sequence to the first century BC, given that he dated "before rather than after 1 BC for the departure from the South-west of the earliest of the colonists who created the Hebridean culture" (1948: 64). It can be seen that culture-historicism and diffusion were dominant in his interpretations and the uses to which he put his pottery sequence, but in this respect his work was very much a product of his time. He was, however, aware of the limitations of the Hebridean record and was the first archaeologist to attempt a scientific excavation in the Hebrides which was published in a comprehensive format familiar to archaeologists today. By contemporary standards, the excavation was well recorded and well published, and included a great deal of the information we would expect to see today. Although his method of pottery analysis can be criticised, as a product of this era it was innovative and should be accepted for what it is.

Scott's Clettraval sequence was subsequently used as a type-series for the Iron Age of the Western Isles as a whole, and acted as a springboard for Alison Young's work on the sequence. She excavated the sites of Dun Cuier and Tigh Talamhanta on Barra, and A'Cheardach Mhor, South Uist, in the 1950s (Young 1953 & 1956, Young & Richardson 1960). She published "The sequence of Hebridean pottery" in 1966 which built upon Scott's Iron Age typology in the light of her more recent excavations, and extended the sequence to include the Neolithic and pre-Norse Iron Age.

Young was a student of Wheeler, working with him on Maiden Castle where she is credited as being one of the finds assistants (Wheeler 1943), and so no doubt was influenced by his techniques. Young's work was carried out in the pre-radiocarbon era and, even though her sequence was published in 1966, her dating framework was still based upon southern British parallels. The Iron Age was compressed into a few centuries around the first centuries BC/AD and peopled by immigrants bringing a new material culture with them. She was of the opinion that the presence of these immigrants incited the native population into building forts.

She believed that, as there was little evidence for it, the Bronze Age did not occur in the Hebrides, and so a direct link could be postulated between the Neolithic and

Early Iron Age. She saw certain Neolithic decorative traits derived from the then-named Rinyo-Clacton Culture (encompassing what is now known as Grooved Ware) continuing onto Early Iron Age pottery in the Hebrides. These traits were incised lattices, herring-bones, chevrons, dots, slash-filled ribbons, and applied roundels (1966: 48), as illustrated on Iron Age pots from Clettraval, Tigh Talamhanta and Dun Iardhard. It is clear now, however, that the Western Isles had their own distinctive Neolithic pottery tradition which did not include all of these decorative elements, and only two certain examples of Grooved Ware have so far been found (Unival chambered tomb, North Uist, Scott 1948; and Calanais Stone Circle, Lewis, Henshall & Johnson in prep.). Nevertheless, vessels with incised decoration were placed earliest in the sequence (Fig. 2-1).

According to Young, the first Iron Age pots had incised decoration with "weak profiles and slightly recurved rim" (*ibid.*: 48), consisting of closed mouth vessels and S-profiled jars, and were accompanied by three new Iron Age characteristics, pin-stamping, applied cordons, and channelling. She corroborated this part of her sequence with the finds from the earliest levels excavated at the wheelhouses at A'Cheardach Mhor, Kilphedir, and Tigh Talamhanta. Young was not able to provide a date for the appearance of these early Iron Age types.

Incised decoration then disappeared and was superseded during the Iron Age by vessels which had everted rims with applied cordons and channelled decoration, pin-stamping, and sometimes internally fluted rims, its appearance dated by Young to the first or second century AD (*ibid.*: 55), though the S-profiled and closed mouth vessels of the earlier Iron Age persist too. Examples of internally decorated bases were also recovered from A'Cheardach Mhor. She sees this new everted rim ware as intrusive, influenced by bronze vessel types of the Roman Iron Age during Agricola's campaigns further south (*ibid.*: 52), although she does not invoke invaders to account for its presence. The resulting assemblage is then seen as a blending of native and foreign forms and decorative techniques. Internal fluting of everted rims was suggested by Hamilton, in reference to the Northern Isles, as derived from the south-western British Iron Age, which in turn came from north-western French Late Bronze Age/Halstatt wares (Hamilton 1956: 125).

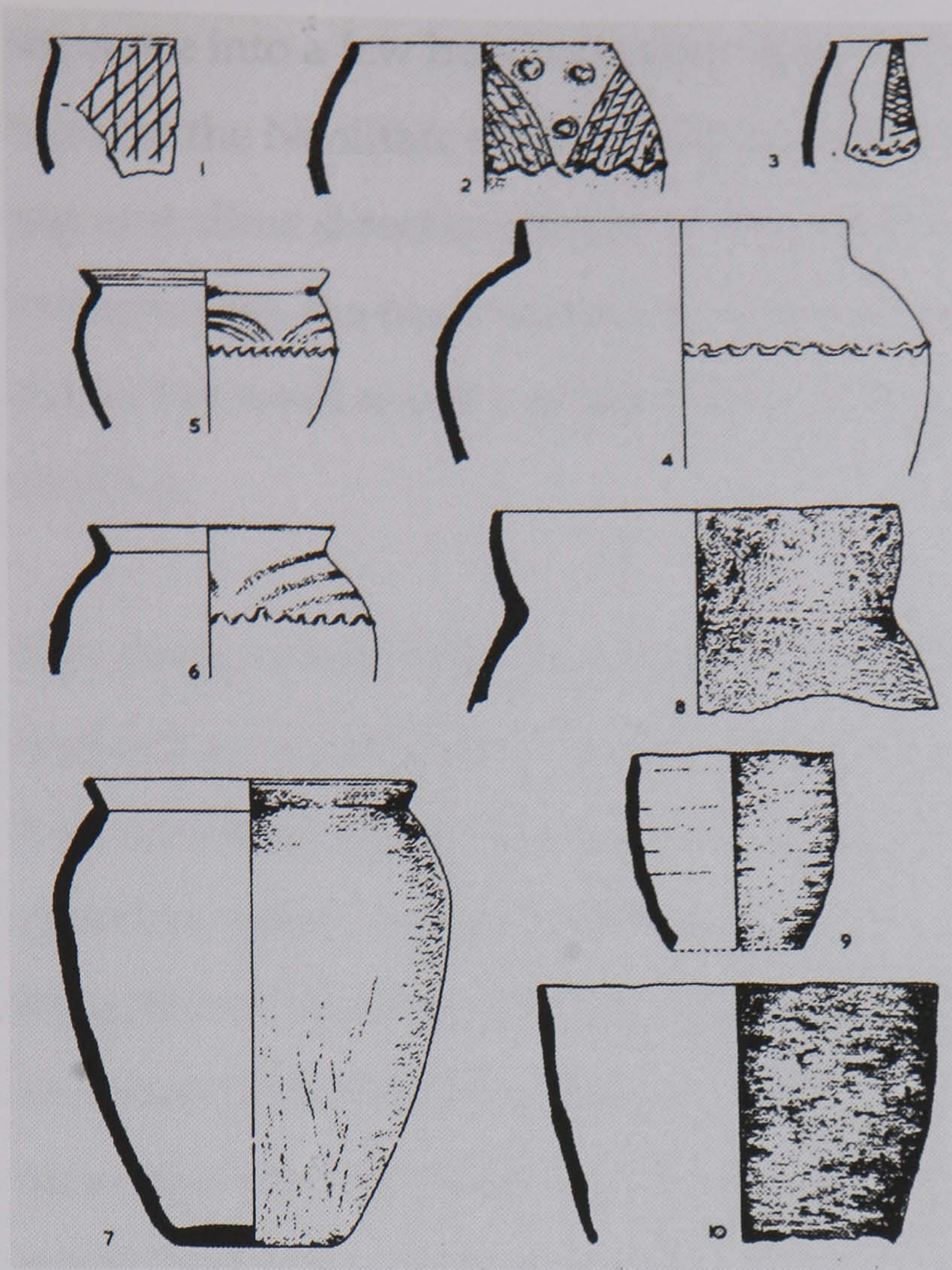


Figure 2-1: Young's pottery sequence (from Young 1966:53)

Continuing into the late pre-Norse Iron Age, Young identified new forms of pre-Norse pottery from her excavations at Dun Cuier and A'Cheardach Mhor (Fig. 2-1). This pottery, in comparison with the earlier Iron Age pottery, was coarsely made and poorly fired and Young divided it into an earlier type of more globular form with long flaring rims and occasional cordons, and a later, coarser, undecorated type with a weak profile consisting of either a slight shoulder or a simple straight-sided bucket-shape (Young 1966: 54; 1956: 304-313). Young suggested that this pottery may have been introduced by Scots invaders from Ireland passing through from Dalriada in the middle of the first millennium AD, these raids being the incentive to build galleried duns, of which she thought Dun Cuier was one (*ibid.*: 54), not recognising the presence of a secondary roundhouse inserted into the broch.

This sequence (Fig. 2-1) was important as it attempted to trace the continuous development of the pottery over a long time period. However, the lack of radiocarbon dating for the sites used by Young naturally compressed her Iron Age sequence into a few hundred years around the turn of the first millennium AD, and brought the Neolithic substantially forwards in time to gloss over the Bronze Age gap and allow direct continuation from the Neolithic to the early Iron Age. Nevertheless, the basic outline went unchallenged for a considerable period of time, due to the small amount of fieldwork that was to take place over the next two decades.

This early period of pottery studies, up to the 1960s, was centred around the establishment of pottery types to be used for characterising the nature of the pottery from each Iron Age phase and subsequently used for dating. Diffusion was the means by which new pottery traits arrived, with highly specific individual elements being traced to a source further south in Britain and Europe (though Young did recognise what she believed was local change over a long period of time alongside these new external elements). The strongly cultural-historic background to these studies led to the definition of terms such as 'wheelhouse pottery', and hypothesised invaders as explanation for certain changes in the archaeological record.

2.2.2 The Advent of Radiocarbon Dating

The advent of radiocarbon dating was of great significance in archaeology as a discipline and heralded the New Archaeology of the 1960s. The impact of radiocarbon dating was primarily to demonstrate that the compressed chronologies in common use were wrong, and although there was initial reluctance to accept these new dates, which put significant events in prehistoric Britain, such as the beginnings of farming, on a par with those in Europe, this new dating method did result in the stretching of chronologies. This lengthening of periods meant that what may have previously been seen as rapid periods of change were now viewed as more drawn-out periods, where cultures were static or evolved more slowly.

There were problems associated with the first radiocarbon-dated sites, but the technique gained widespread use. As there was now an independent means of providing absolute dates for sites, the reliance on pottery as a dating tool weakened, and pottery researchers were free to pursue other relevant themes. However, pottery remained one of the most important dating tools as it could provide spot-dates on site during excavation, sites did not always produce material for radiocarbon dating, which was also expensive, and established pottery typologies were still easy to use and relevant. Pottery sequences continued to be constructed, and pottery remained significant in the interpretation of sites/regions and periods from a culture-historical perspective.

It is ironic that recent developments in the precision of radiocarbon dating, allowing smaller and smaller charcoal samples to give more precise dates (AMS), has resulted in experimental dating programmes whereby the charred residues found adhering to pots have been dated (Campbell forthcoming), potentially giving a direct date for the use of the vessel itself. As a technique this is still not fully developed and the implications not fully understood, but it should provide helpful results, not only for more precise dating of the archaeological sites themselves, but may also help to answer many of the unresolved issues regarding typological developments of pottery.

Nevertheless, a range of techniques for analysing pottery, borrowed from the earth sciences to give us petrographic and mineralogical analyses such as thin sectioning, neutron activation analysis, x-ray diffraction, and residue analysis, although used prior to the 1960's, began to take off during this period, not just on pottery but on a whole range of artefact types. Now that dating was not always the prime concern, pottery studies were able to examine a whole range of new research questions concerning issues such as technology, function and provenance. Much of this work, particularly with respect to pottery, was led by American archaeologists, who have a long tradition of studying Native American pottery and potting techniques (e.g. Shepard 1956).

During the 1960s and 1970s very little work was carried out on the Hebridean Iron Age, the main excavations occurring at the Udal, North Uist (Crawford & Switsur 1977), and Dun Mor Vaul, Tiree (MacKie 1974). The Udal is unpublished and will probably remain so, but is discussed in the context of Alan Lane's doctoral research in the following section.

Dun Mor Vaul was excavated in the early 1960's, and produced a series of radiocarbon dates, the first published absolute dates for an Iron Age site in the Hebrides, and both the excavation results and MacKie's interpretation of the site have been hotly contested since its publication in 1974. This debate is outlined in a series of papers (e.g. MacKie 1971; Lane 1987; Armit 1990, 1991; Harding 2000), along with a reconsideration of the radiocarbon dates (Topping 1987; Lane 1990), and does not require reiteration here. MacKie has also recently defended his position (1997) and discussed the pottery again.

The structural sequence as interpreted at Dun Mor Vaul along with the radiocarbon dates allowed MacKie to construct a dated pottery sequence from the pre-broch Iron Age through to the fifth century AD. He identified and dated six wares from Dun Mor Vaul (along with internally decorated bases as a separate category), and added another two known from other sites, which were used to aid his interpretation of the site. Briefly, these wares are Dunagoil Ware, a plain, coarse closed mouth vase type, which had its origins in the pre-broch period, c.600 BC, and was attributed to a mainland source; it continued in use as a small percentage of the assemblage until the third century AD. Its separation into a distinct ware may be misguided; it is perhaps just a coarser version of Vaul Ware vases. Vaul Ware also consisted of closed mouth vases but included everted rim jars and had incised decoration, and MacKie saw it as a native ware which had sporadic 'alien' influences, to explain the apparent similarity of some of the motifs with Southern British Iron Age 'A' pottery (MacKie 1974: 157). It also had its origins in the pre-broch period, and its period of use attributed to c. 500 BC to the mid-fourth century AD. It was first identified from the remains of a wooden hut beneath the broch, radiocarbon dated to give *termini post* and *ante quem* for this hut of 400 ± 110 uncal. bc (calibrated at 2-sigma to 800 - 150 BC) and 280 ± 100 uncal. bc (calibrated at 2-sigma to 550 BC - AD 50), along with an intermediate date of 445 ± 90 uncal. bc (calibrated at 2-sigma to 800 - 200 BC). The internally decorated bases were roughly synchronous with Vaul ware.

Balevullin Ware was considered to be another native pre-broch ware, derived from the local Neolithic pottery of the area and based upon an assemblage excavated at the site of Balevullin on Tiree (MacKie 1964). It comprised everted rim jars with incised decoration and applied cordons, and was dated to the third century BC to the fourth century AD. The assemblage from this site however, a potential hut excavated in 1912, was poorly recorded and badly excavated, and although MacKie accepts the assemblage as homogeneous it appears to contain elements from a range of periods, and it is not certain that even all of it came from that particular site.

MacKie distinguished two wares with everted rims: Clickhimin, which had internally fluted everted rims, that he supposed derived from the Late Bronze Age Urnfield culture of France; and Clettraval, which had the characteristic wavy cordon and channelled arches as first identified by Scott, apparently derived from 'eyebrow' decorated pottery of the Southern British Iron Age 'B'. These wares were interpreted as the pottery types of the socially dominant broch builders, as their appearance at Dun Mor Vaul coincided with the first phases of broch occupation and at the same time as Vaul pottery declined. MacKie's final pottery type, Dun Cuier Ware, was a plain coarse ware with flaring rim, dated to the fourth and fifth centuries AD, and named after Young's site where she first identified it. This ware is not present at Dun Mor Vaul.

MacKie's approach can be criticised on a number of different levels. Firstly, the radiocarbon dates, upon which MacKie bases much of his interpretations of the sequence of events at Dun Mor Vaul, have been criticised. Topping (1987) suggested that the date for the beginning of MacKie's pottery typology could be pushed back to the eighth century BC, while Lane agreed that the Dun Mor Vaul dates were wrong, but disagreed with Topping that their re-calibration meant the sequence could be extended (1990:113-116). Instead, Lane suggested that the Dun Mor Vaul dates should be disregarded altogether, as they were taken in the mid-1960s when radiocarbon dating was a new science and less well understood, and he also feels there is reason to believe the laboratory which produced the dates may have been in error (1990: 113-116). This is corroborated more generally by Patrick Ashmore, whose examination of radiocarbon dating has suggested that many of the early dates gave an incorrect standard deviation and require re-calculation (Ashmore 1999).

MacKie's definition of a ware is highly dubious, often resting on single traits, rather than a recurrent set of traits including fabric. In an earlier paper MacKie (1965) in fact criticised Scott's use of sherd counts for each individual element of decoration and form in the Clettraval report, rather than dealing with recurrent associations of form and decoration, and for then attempting to find origins for these individual traits. However, MacKie then goes on to define Clettraval Ware as an amalgamation of traits with different areas of origin (native and 'alien'), and pinpoints specific areas of southern Britain and France for the origin of individual elements of the Clettraval and Clickhimin Wares. This is little modified for the final report on Dun Mor Vaul.

MacKie's report and his interpretations of the arrival of the broch builders continued to use diffusion as its main interpretative concept and perpetuated the notion of southerly origins for the material culture of the Hebridean Iron Age. His interpretation of the pottery types, that Vaul Ware belonged to a native population while the everted rim wares represented an elite intrusion, harks back to the culture-historical days of pots representing people: "in the Iron Age Hebrides at least, the old and much maligned concept of different wares reflecting different population groups in fact holds good" (MacKie 1974: 159). This is quite an extraordinary standpoint to have taken as recently as the 1970s. However, in a recent paper (1997), MacKie actually defends his position and undertakes a series of new analyses of the pottery in order to back up this viewpoint: he insists that the Dun Mor Vaul pottery belongs to two distinct groups of people (1997: 161) and defends his original phasing, interpretations and dating. Whether his definition of the wares is defensible or not, criticism of MacKie's theories is neatly summed up in the same volume:

> "...the direct equation of pots and people, as commonly invoked up to the 1960s, would now be regarded as simplistic, which is not to say that pottery is not an important index of culture. But the cameo of native and newcomer, crouching at opposite ends of the broch gallery, each

with his own distinctive and exclusive style of pottery, seems a trifle extravagant even by the standards of the genre."
(Harding 1997: 136)

2.2.3 Recent Work

A number of key developments have occurred more recently in the study of artefacts, namely the recognition of 'life' and 'death' assemblages and the study of site formation processes, notably by Schiffer (1987). The use of statistics and computer packages for handling large amounts of data have also made the study of large assemblages more effective, while several authors have concerned themselves with studying sampling and the quantification of pottery (e.g. Orton, Tyers & Vince 1993).

Experimental studies have begun to throw light on many of the unresolved problems in archaeology, and the interpretation and integration of ethnographic studies into archaeological problems provides an additional source of information. The return to the use of ethnographic evidence came with a realisation that these kinds of studies can have value as long as one understands their limitations (e.g. Arnold 1985; Skibo & Feinman 1999).

Alan Lane (1990) commented that the continued excavation of new assemblages would allow the pursuit of new avenues of research. A wide range of sites have been excavated during the 1980's and 1990's by the Universities of Edinburgh, Sheffield and Cardiff on the islands. These include Armit's excavations at Cnip, Lewis, and Eilean Olabhat, North Uist, (Armit 1986, 1987, 1988, 1990), those by Harding at Dun Bharabhat and Beirgh, Lewis (Harding 2000; Harding & Gilmour 2000), and work by SEARCH at Dun Vulan, South Uist (Parker Pearson & Sharples 1999). However, very little synthetic work has been attempted on Hebridean Iron Age pottery in recent years; the focus instead has been on resolving the sequence of structural change within a chronological framework (e.g. Gilmour 2000). Ian Armit, as part of his doctoral thesis (published in 1992), re-examined and synthesised the body of settlement evidence for the later prehistoric period in the Western Isles, suggesting a new category of monument, the Atlantic Roundhouse, and sparking off a new and vigorous period of research into the Iron Age of Atlantic Scotland by activating a new debate about the nature, function and date of these roundhouses, a debate that still continues (e.g. Parker Pearson *et al.* 1996, 1999; Gilmour & Cook 1998).

Since 1980, one study has made use of the new scientific techniques available for analysing pottery. Patrick Topping (1985, 1986), attempted a new approach to Hebridean Iron Age pottery by undertaking Neutron Activation Analysis of pottery sherds from fifteen sites. At the time of Topping's research, very little excavation was being undertaken in the Western Isles, and so his work relied on many of the poorly recorded and often badly excavated sites of earlier years. These sherds encompassed Iron Age and later pottery from the Inner and Outer Hebrides.

His broad aim was to find out if there were any recurrent associations between fabric and vessel form or decoration, and if so, whether there were any patterns within the fabrics which could be more meaningful than a traditional typological study: i.e. whether these correlations could indicate trade, marketing areas of potters, or movement of potters or people. He wanted to move away from traditional stylistic types of study. His main conclusion was that "no one vessel type or decorative feature and virtually no chronological context has a clay source and potting technique which is exclusive to that archaeologically defined group" (1986: 127). He went on to say that "later prehistoric pottery in the Western Isles was locally produced and locally distributed" (1986: 128), and pointed out that this lack of commercial or specialist pottery production centres, and the subsequent lack of standard pottery types, would make it difficult to classify types and formulate a typology. Although Topping's methodology has been criticised by Lane (1990), the main impact of this work has been to introduce a note of pessimism into studies of fabric types of Hebridean pottery which has yet to be satisfactorily overcome.

Alan Lane (1983) undertook a more traditional typological study of the Late Iron Age and Viking pottery from the Udal, North Uist; however, without full publication of the extensive excavations at the Udal, it is impossible to assess the significance of Lane's sequence. Nevertheless, he identified a Plain Style (Fig. 2-2) of pottery belonging to the pre-Norse Late Iron Age, composed of undecorated, handmade pottery, of plain bucket and shouldered jar forms, with long upturned or flaring rims (Lane 1983, 1990). At the Udal, this pottery type is apparently unchanged from about AD 400 to the beginning of the Viking period c.800 AD. Lane identified this Plain Style on a number of other sites in the Western Isles (1983), for example A'Cheardach Mhor, Dun Cuier, and Beirgh, within the same broad Late Iron Age period. Lane sees a pre-Norse sequence of cordoned vessels with flaring rims evolving into the undecorated bucket and shouldered jar forms of the Plain Style from his work on the Dun Cuier and Udal assemblages, which in essence agrees with Young's pre-Norse sequence (Lane 1990: 121). The dating of this Plain Style to c. AD 400 – 800 has become commonly accepted in the literature.

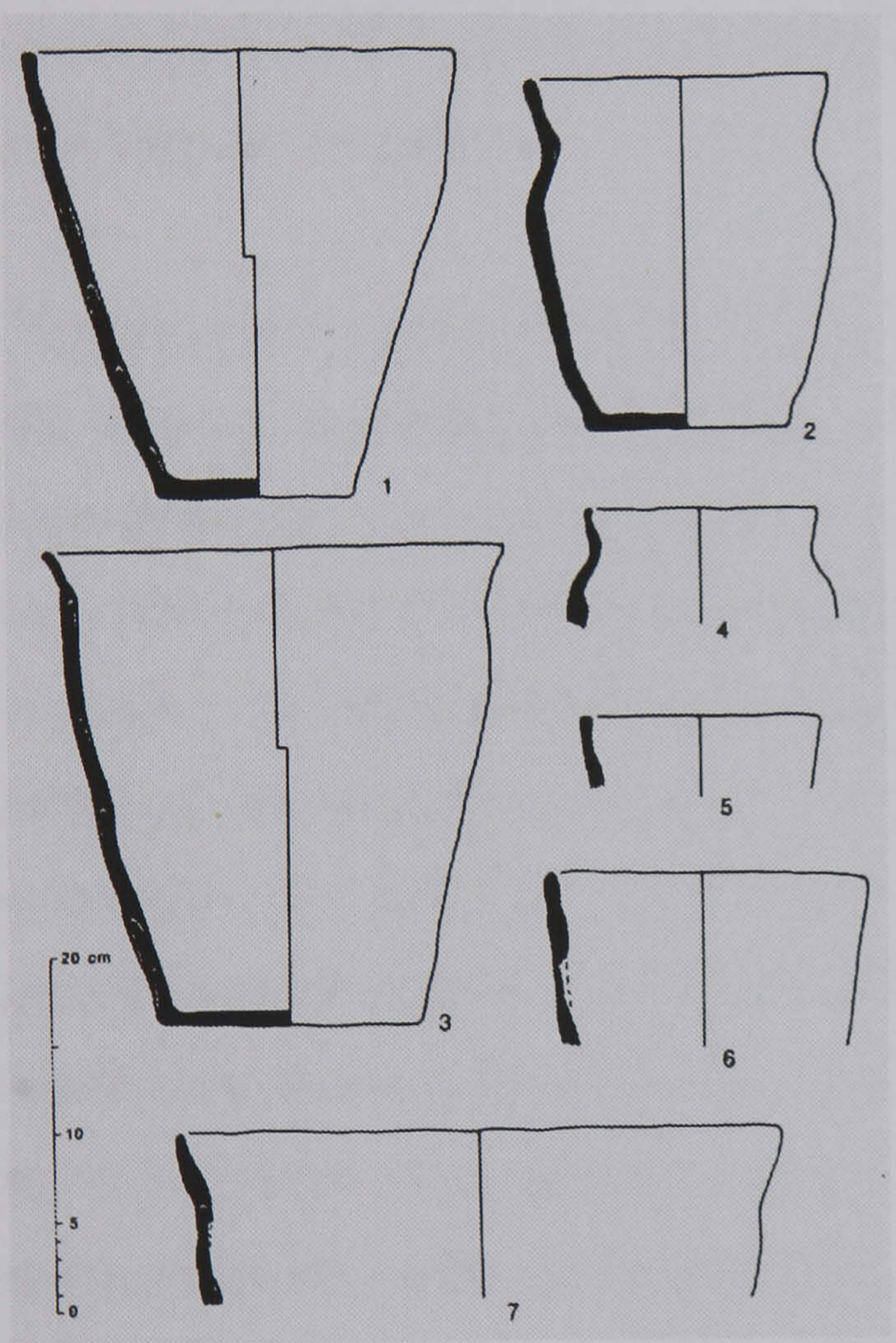


Figure 2-2: Alan Lane's Plain Style (from Lane 1990: 118)

The pottery underwent a transition in the Norse period at the Udal, with new forms and new manufacturing techniques, which Lane has identified as being of wider scope throughout the Hebrides with his recognition of Norse pottery at a variety of sites. This was the first major recognition that Norse pottery was widespread in the Western Isles and that it constituted a new type. Much of the emphasis lay on interpreting this transition in terms of the Norse invasions of the islands, which is not relevant to the current study.

There has not been any further systematic study of Hebridean Iron Age pottery since Lane and Topping's research, largely restricted to short specialists' reports on individual published sites (e.g. Dun Vulan, Dun Bharabhat). A recent attempt at a synthesis of this material has been undertaken by Ian Armit (1992). He constructed a general sequence for the Iron Age (1992: 143-144), but very little detailed ceramic analysis had taken place on any of the sites excavated in the 1980's and 1990's and they still largely remain unpublished. He therefore relied heavily on broad impressions gained from his own excavations, incorporating previous work carried out on the islands, and this brief statement was not meant to be definitive but reflect new work in progress.

The sequence he proposed was as follows (1992: 143-144): the Iron Age pottery of the Atlantic roundhouses, beginning c.500 BC from the Dun Mor Vaul data, was long-lived and comprised vessels with everted and inturning rims, richly decorated in a wide variety of techniques including incision, cordons, channelling, and stamping. The next phase was filled only by the Cnip assemblage and continued directly from the previous types. It consisted of large jars with everted rims but decoration was restricted to wavy cordons, and was dated only on typological grounds. A transitional phase, represented by the assemblage from Eilean Olabhat, North Uist, dated to the second or third century AD and supported by its presence at A'Cheardach Mhor, Beirgh and Dun Cuier, was characterised by large jars with flaring rims decorated with pairs of wavy cordons, generally one found in the angle of the rim and one at the widest point of the vessel. The final pre-Norse pottery was the undecorated coarse ware with upright or flaring rims as categorised previously by Lane (1983) and Young (1956, 1966), and dated by Lane to c. AD 400-800.

Armit's comments on this pottery development reflect a more contextual approach to ceramic change: instead of invoking raiders and invaders, the origins of change are sought within the society itself, looking at other aspects of material culture and settlement evidence to see if explanations can be found. The possibility of pottery having an active role to play within Hebridean society during these periods, rather than being a passive reflection of society, is highlighted, though no in-depth reasoning was attempted at this stage. However, the main emphasis is still very much a typological and chronological one.

More recently, Ewan Campbell published a paper entitled "The Western Isles Pottery Sequence" (2002). This paper deals only with the southern Outer Hebrides, from North Uist to Barra, and therefore deals principally with research conducted by the Universities of Sheffield and Cardiff, and draws heavily upon the author's own specialist work at a number of these sites. This paper should be considered as an interim statement (*ibid.*: 139), and came about as a result of a programme of AMS dating of charred food residues found adhering to vessels. Campbell acknowledges the difficulties and controversies associated with the study of Hebridean pottery, such as typology, radiometric dating, taphonomy, residuality, stratigraphic interpretation, fabric, and the large size of assemblages (*ibid.*: 139).

Campbell takes each period in turn, beginning with the late Bronze Age and reviews the evidence along with more recent results from the AMS radiocarbon dating of food residues. Rather confusingly, in the discussion of Sollas in the Middle Iron Age period, he states "There are some late dates from the site amongst the AMS determinations, but there are technical problems with the process of dating charred food residues, which suggest that these cannot be relied on, as they may be younger than their true age." (*ibid.*: 141). It is not clear from this statement, and from his use of AMS dates in his discussion, whether this unreliability relates to all of the AMS dates of food residues, or whether he is referring to a specific problem associated with particular dates from Sollas. However, the presence of these dates is a significant step forward in our understanding of the dating and sequence of Iron Age pottery types.

In outline then, his southern sequence is as follows. The Early Iron Age period, using Eilean Olabhat's assemblage as his main source, has squat bucket-shapes, a variety of rims including slightly out-splayed types, and decoration includes finger marking below the rim, applied thick cordons and coarse incised chevrons (Campbell 2002: 140). He also notes an unusual applied ring with circular impressions. Campbell interprets these types as coarser predecessors of the middle Iron Age forms. Some of the vessels are described as having unsmoothed coils on their inner surfaces and grass matting impressions on their base. He notes the presence of an unusual, very coarse, rock-tempered fabric which he compares to Dunagoil Ware and fabrics at Dun Vulan and Eilean Olabhat during the mid first millennium BC. Campbell characterises the Middle Iron Age period using Sollas. This sequence confirmed that of Young, of incised vessels with weak rims to sharply everted rims with channelled and arcaded decoration to plain vessels with long flaring rims (*ibid*.: 141). The Late Iron Age period pottery is discussed using Bornais Mound 1, South Uist, as its prime example. For the earlier part of this period, and the Udal North Hill for the later part. Campbell sees double cordoned decoration and flaring rims changing to Lane's Plain Style of flaring rimmed and bucket-shaped vessels (*ibid*.: 142).

This sequence is significant, particularly in conjunction with the dated food residues, as it provides a comparative sequence to that in the north of the Outer Hebrides, on Bhaltos. In conclusion Campbell asserts that this sequence is by no means definitive and that it does not necessarily apply to other areas of the Hebrides. He also makes some valid final observations, highlighting avenues for further research and reflecting on some of the difficulties with this region.

> "At present, it is not even clear whether there are diachronic features within the region of the Uists, or even temporal or functional differences between neighbouring sites. The variety of decorative forms, particularly in the Middle Iron Age where some features seem to be peculiar to individual sites, suggests that generalisations about stylistic development may be difficult to sustain.
> The establishment of a basic sequence of pottery types is very much a traditional approach to pottery studies, but it is essential to the study of any area. It is perhaps surprising that this outline is the first to be attempted for an area of Britain that has been studied for over 100 years, but the peculiar nature of the pottery assemblages there make any study frustratingly difficult. It is sometimes impossible to be sure if a small assemblage is Iron Age, medieval or post-medieval, undermining the

confidence of both the excavator and the pottery specialist in the ceramic evidence. "
(Campbell 2002: 144).

2.3 Conclusion

It is clear that little synthetic work has been attempted recently on Hebridean Iron Age pottery, despite the huge quantities of material from both new and old excavations. A number of recurrent themes have been identified. Due to its ubiquity on excavated sites, pottery was commonly used as a chronological indicator, and its origins were sought through the tracing of individual traits within a diffusionist framework. Pottery typologies were constructed to be used as dating frameworks and to identify cultures. With the advent of radiocarbon dating, pottery studies were freed a little from this narrow usage, and the adoption of techniques such as thin-section analysis allowed other themes, such as trade, to be explored. More recently, a burgeoning body of theoretical work on pottery has appeared, particularly on ways of 'reading' material culture (e.g. Hodder 1982; Tilley 1990; Schiffer with Miller 1999a).

Unfortunately, artefact studies in the Western Isles have not benefited from these advances in approach and have even been sidelined in recent years due to an upsurge of interest in, and debate generated by, structural typologies. Despite an interest in establishing the function of these buildings (see for example Parker Pearson and Sharples 1999: Chapter 12, Sharples & Parker Pearson 1997, Armit 1997b) pottery is, even if unconsciously by those involved in the debate, considered to be peripheral to the structural record, which remains the main object of study. It is my contention that it is possible to approach Hebridean pottery in a more appropriate manner. The aim of the current study is to take a broader look at ceramics in order to ask and answer some far more compelling questions of the material. This does not deny the value of stylistic typologies for dating purposes, especially in a period where the radiocarbon calibration curve is problematic, and is indeed an important element of the research. The present research concentrates on the key site of Beirgh due to the size and quality of this assemblage. The extensive catalogue of pottery from Beirgh provides a substantial body of data from which to perform analyses and draw conclusions. The next three chapters will describe in detail the analyses undertaken on the material and the results from these, before going on to discuss their significance in relation to Beirgh in Chapter 6.

3. Methodology for Analysis

"Archaeologists derive scant comfort from the fact that over and above certitudes of death and taxes, they are blessed with the additional constant of a seemingly limitless quantity of sherds to classify."
(Rice, 1982: 48)

3.1 The Approach

It was intended to examine the assemblage as intensively as possible, with extensive recording of many individual attributes. The layout of the catalogue is outlined below (Section 3.4).

The approach taken to the analysis of the assemblage was two-pronged. To elicit the maximum amount of information, analysis of the pottery was approached from both a phase perspective and a form perspective. This allowed patterns to be observed over a time dimension across the sub-phase divisions, which would aid in identifying a pottery sequence at Beirgh. It also allowed individual forms to be analysed to aid in determining function of the pots. The form analyses could also feed back into the phase sequence and help explain some of the patterns.

From a phase perspective, the assemblage from each phase was taken together and characteristics were analysed in bulk, without taking into account anomalies or distinctions between forms (Chapter 4). This provided broad trends over time for each characteristic examined. Analysis then proceeded on each individual form (Chapter 5). This allowed the individual characteristics of each form to be examined, to elucidate the differences or similarities between forms and thus gain a better understanding of the components which make up the assemblage. By combining these two approaches it was possible to gain a much clearer and more detailed understanding of the pottery.

The analysis of the assemblage, and the descriptions of phases and forms, was divided into four categories. Manufacture encompassed fabric, manufacturing and finishing techniques, and firing. Decoration was designed to study the decorative technique as well as the motif(s) and their position(s) on the vessel. Surface deposits analysed the type and placement of visible surface deposits on the vessels. Deposition provided information on abrasion and average sherd weight and size. These categories were maintained throughout the description of the assemblage in Chapters 4 and 5, and in the analysis and discussion of the assemblage in Chapter 6. A full catalogue is found in Appendix 3.

3.1.1 Phase Divisions

As discussed previously (Chapter 2), there are twelve sub-phases at Beirgh, which can be grouped together into three major phases (Roundhouse, Cellular and Late Iron Age). The NE Extension has three phases of its own, Lower, Middle and Upper. There are also two groups of unphased contexts, from the entrance area and from the galleries. These divisions will be maintained throughout the analysis, with each sub-phase being treated as a single entity. This allows each phase to be analysed as if it were an assemblage in itself, which is a useful way of maintaining control of an assemblage, and catalogue, of this size.

As discussed in Chapter 2, there are a number of contexts which have been allocated to more than one phase of the site: for example, context 149 which is allocated to phases 3 and 4, or context 358 which is allocated to phases, 7, 8 and 9 (Harding & Gilmour 2000). These contexts will be referred to as multiple-phase contexts, as opposed to single-phase contexts. The reasons for their presence are that either:

a) it was impossible during either post-excavation, or preparing the final report and Harris matrix, to determine which individual phase the context was stratified within. This was especially difficult in relation to wall fills and floor levels where structural changes had taken place (Gilmour pers. comm.); or

b) these contexts span several sub-phases and were in use or created during several phases. They could have built up over a period of time (e.g. middens or hearths), and within these contexts there were no obvious breaks to indicate different phases of use.

Sherds from multiple-phase contexts make up less than 20% of the diagnostic assemblage, as the table below illustrates.

Table 3-1: Table showing the proportions of multiple- and single-phase material

	Multiple-phase Contexts		Single-phase Contexts	
Number of sherds	874	15%	4903	85%
Weight (kg)	18.954	18%	84.827	82%
Catalogue entries	762	15%	4276	85%

These contexts were dealt with in a particular manner during analysis of the material from this site. All of these multiple-phase contexts were removed, so each sub-phase assemblage was composed only of material from single-phase contexts. The material from the multiple-phase contexts was then divided into three blocks, or assemblages, which were analysed separately. These blocks were named Roundhouse Multiple-phase, Cellular Multiple-phase and Late Iron Age Multiple-phase. The material consisting of multiple-phase contexts was used to provide additional, background information for each major phase division and was helpful in adding depth to wider discussions.

A more problematic scenario arises where a context crosses major phase boundaries. There are very few such incidences however; for example context 214 covers both phase 4 and phase 5, or context 429 which covers phases 9 and 10. In these cases, as they are so few in number, the pottery was analysed twice. For example, context 429 was analysed in the Roundhouse Multiple-phase assemblage and in the Cellular Multiple-phase assemblage, thus duplicating the material but providing all possible assemblages.

3.2 The Assemblage

The assemblage is currently stored at the Dept. of Archaeology, University of Edinburgh. Permission to examine the assemblage was kindly given by Professor D.W. Harding and work space was provided within the post-excavation suite of the department.

All contexts had extant record sheets and a list of contexts is published (Harding & Gilmour 2000). Contexts 209 and 293 were the exception and no information was available. However, these two contexts contained only 3 sherds of diagnostic pottery between them. Only one diagnostic sherd lost its contextual association completely (ID no. 2109). These four sherds are excluded from the analysis.

During the early seasons of excavation at Beirgh, small find numbers were given only to particularly large or distinctive sherds or sherd groups. In the later seasons the position of all artefacts was three-dimensionally plotted using a Total Station. This included diagnostic pottery sherds or scatters, and over 2000 small finds have been registered. However, due to the vagaries of excavation, it could not be guaranteed that every diagnostic sherd was recorded in the field in this way. As a first step then, it was necessary to sort through all of the bulk bags of pottery by context to find and remove diagnostic pieces in order that they may be catalogued. This was carried out on the entire assemblage by the present author, which in some cases meant replicating work which had been carried out during various stages of post-excavation, but was deemed necessary to ensure consistency of recovery.

The majority of the assemblage had been washed during previous sessions of post-excavation, and diagnostic pieces marked with their small find numbers. Dry brushing was employed where necessary to remove any remaining dirt. Diagnostic sherds were bagged and marked individually by small find number where this had not previously occurred. No further reconstructive work was undertaken in addition to that carried out during previous post-excavation sessions.

Only the diagnostic sherds were catalogued in detail. It was considered unnecessary to pursue any detailed analysis of the undiagnostic material for several reasons. Firstly, the vast quantity of featureless body sherds (544.483 kg) meant that time and space would not allow any further examination of this material except to quantify it by total weight per context. Even a sherd count of this material would take a disproportionate amount of time in relation to the additional information it could provide. A simple weight measure is considered sufficient to quantify the amount of material in each context and phase and to indicate the overall assemblage size (see Appendix 1). The diagnostic assemblage is also sufficiently large to ensure that any patterns within the fabric and technology will be discernible without recourse to the undiagnostic material.

The diagnostic assemblage is large, comprising 6013 diagnostic sherds weighing 108.703kg. The average sherd weight for all diagnostic sherds is 17g. As a rough indication, if this held true for the undiagnostic pottery, then there would be somewhere in the region of 32 000 undiagnostic sherds. The assemblage can be broken down to provide a quantification by phase.

Table 3-2: Quantification of the diagnostic assemblage by phase

Phase	Weight (g)	No. of sherds	No. of vessels
LIA Multiple	1101	68	66
0	3184	213	176
1	5500	509	452
2	12424	935	820
3	1940	130	116
4	6213	435	396
Cellular Multiple	18139	821	710
5	9147	471	435
6	4040	187	171
7	6100	214	197
8	4162	136	114
9	8219	320	299
Roundhouse Multiple	4845	239	206
10	5570	251	196
11	1597	57	40
NE Ext L	1009	84	48
NE Ext M	1769	146	94
NE Ext U	343	47	47
Galleries Unphased	12283	690	601
Entrance Unphased	1118	60	57
Total	*108703*	*6013*	*5241*

It is apparent that a majority of contexts actually yielded pottery. Those without pottery often consist of structural elements such as dry-stone coursing or slabbing, which by their nature cannot contain pottery. However, some soil deposits do not contain pottery. This is a theme which will be returned to in Chapter 7.

Table 3-3: Proportion of contexts containing and not containing pottery

Total no. of contexts	No. of contexts with pot	No. of contexts without pot
672	403 (60%)	269 (40%)

3.3 Quantification

3.3.1 Background

Quantification is defined by Orton *et al.* (1993: 21) as "the measuring of the amount of each type of pottery in an assemblage, with a view to describing the assemblage in terms of the proportions of each type present." In the early years of pottery research (as outlined in Chapter 2, Section 2.2.1) this meant basing analyses upon simple counts of the numbers of sherds. However, since the advent of radiocarbon dating and a more contextual approach to pottery studies (Chapter 2, Section 2.2.2) other means of quantifying assemblages began to be explored. This resulted in a variety of different methods of quantification available to the pottery specialist. The most effective or appropriate measurement to use has since been a subject of debate. However, before these methods are detailed, it is first necessary to discuss why quantification became an issue, and why it is important to be clear on the methods used.

The first and most important point to make is that we are dealing with an archaeological assemblage, not one which is currently in use. This may appear to be a simple and basic point but has important ramifications for quantifying and interpreting an assemblage. It is often assumed that the proportions of types present are equivalent to the original composition of an assemblage as actually used by prehistoric peoples. However, we can never know how much of the activities and events taking place at a site have translated into recognisable, and recoverable, archaeological deposits. Schiffer (1987) has demonstrated that there are an enormous variety of depositional and post-depositional factors involved between use of an object and its discovery in an archaeological context. It is very likely that all sites represent only an incomplete record, and this is particularly true of artefactual material which may have been deposited off site for other purposes or, which, due to preservation conditions not have survived.

So, how can one translate an archaeological assemblage into the equivalent of what was in use in the past? It is not possible to reconstruct the exact number of vessels in use at any one time by a prehistoric community, but it is possible to approach an assemblage asking what proportions of different vessel types made up an assemblage. It must be assumed that the proportions of types left in the archaeological record at least reflect the proportions in use at the time of occupation, even if they cannot be translated into actual numbers of pots. The assemblage we are left with is, in effect, a sample from a parent population, even though we do not know the size or composition of that parent population (Orton *et al.* 1993: 167). While it is possible to calculate the proportions of vessels which have remained part of the archaeological record, it is of course impossible to determine the proportions of different vessel types which do not make it into the record. However, with a large assemblage it is statistically more likely that rare types will make it into the record (Orton *et al.* 1993: 166).

Therefore, as long as inferences made from the assemblage are reliable and statistically valid, then it should be possible to determine the proportions of types within a surviving archaeological assemblage. These proportions may represent the parent population more or less reliably. The unit of measurement to determine these proportions is important and these will be discussed next.

3.3.2 Methods of quantification

There are a number of different methodologies in use for quantifying pottery assemblages, which each have different strengths and weaknesses. These will be discussed in turn and the method to be used in this thesis will be presented. Detailed critical reviews of these methods can be found in Millett (1979c), Orton and Tyers (1991), Orton *et al.* (1993), and more recently in Squair (1999), but a brief overview is helpful here.

The main methods of quantification are:

1. Sherd counts
2. Sherd weights
3. Estimated number of vessels represented
4. Estimated vessel equivalence (EVE)

A number of others, such as surface area (Glover 1972) and displacement volume (Hinton 1977) have not been widely adopted in the archaeological literature and will not be discussed here.

The sherd count method simply involves counting the number of sherds present and using these counts in analyses. This method aims to measure the proportion of a particular type in the assemblage (Orton *et al.* 19993: 169). However, this method can be flawed in that a large smashed pot will, say, have a count of 20 sherds, while a lone sherd of a different pot will only count one. This leads to an over-representation of the larger pot, which can be problematic if the proportions of decorated types or vessel shapes is being counted - a ratio of 20:1 would be produced in this case, whereas in fact they both represent just one vessel each. Another drawback is that sherd counts are also unintentionally measuring the brokenness of a type, i.e. it is measuring the average number of sherds into which a pot of a particular type has broken (Orton *et al.* 19993: 169). For example, thick, well-fired vessels may break into only two or three large pieces while a thin-walled delicate pot or a poorly-fired pot may break into numerous fragments. In this case, the thick pot will be under-represented. Sherd counts give an idea of the overall size of the assemblage, but cannot be used accurately to measure the proportions of types within an assemblage and cannot be used to make direct comparisons with other assemblages.

Sherd weight measurements have similar aims and drawbacks. Again, it is intended to measure the proportions of different vessel types in an assemblage through their weight. However, heavy, thick-walled pots will be over-represented in comparison with light, thin-walled pots. Sherd weight by implication also measures the weight of whole pots, which can then be used to compare the relative weights of one type of vessel to another. Therefore, weight measurements can be used to compare proportions of the same vessel types between assemblages (Orton *et al.* 1993: 169).

The methods most commonly used in published pottery reports are weight and sherd count. A minimum or maximum number of vessels present, or vessel count, is also frequently given. This is calculated on the basis of how many individual vessels can be recognised within the assemblage, through grouping sherds into 'families' which can be said to have derived from the same pot. This can mean that one vessel is represented by only one sherd. There are problems with this technique, particularly with prehistoric assemblages, due to the variation that is possible across the body of a vessel in terms of colour, firing profile, and fabric. It may be the case that sherds are allocated to separate vessels when in fact they may just be from different parts of the same vessel. This method also requires extensive re-fitting and cross-context comparisons to take place, to be sure that sherd families take into account all available sherds.

Another quantification method also aims to count the number of vessels represented within the assemblage. Estimated Vessel Equivalence (EVE) (Orton *et al.* 1993: 21) starts with the concept that each sherd forms a certain proportion of the original whole pot. It should theoretically be possible to calculate this proportion and give it a score out of 1, where 1 would equal the whole pot. The individual scores of all sherds of a certain type can then be added together to give an overall score for the vessel-equivalent of that type. In practice, this calculation is done using rim sherds where the remaining piece can be calculated as a percentage of the complete rim circumference. The vessel-equivalent figure reached is an estimation since only the measurable sherds from an assemblage can be used.

A number of comparisons have been made by authors (e.g. Chase 1985; Hinton 1977; Millett 1979c; Solheim 1960; Orton *et al.* 1993) in an effort to determine which is the most suitable or effective for quantifying pottery, but there has as yet been no real consensus among pottery specialists and it is a theme which sees little new research. At the end of the day, the method used should be chosen by the pottery specialist on the basis of the quality, quantity and type of assemblage they have at hand, and what they hope to achieve from it.

It was deemed inappropriate for the Beirgh assemblage to use a vessel-equivalent method as so much of the assemblage consists of small sherds from which it would not be possible to produce percentages. It was also intended to examine decorative motifs, which may be on sherds, such as body sherds, which would not be measured using the EVE method. Using EVE's would result in limiting the assemblage to just large rim sherds only, which was deemed inappropriate for achieving the aims of this research.

Estimates of vessel numbers were also not possible for Beirgh because this should be done systematically, finding sherd groups which can be said to belong to the same vessel and finding cross-fits. As will be discussed further in Section 3.3.3 below, there are difficulties with finding cross-fits in prehistoric assemblages anyway, and given the enormous size of this assemblage it was not considered appropriate to expend so much time and effort on this method. Furthermore, one of the main difficulties with EVE's and vessel counts is that they assume standardisation of types, by size, shape and thickness. Within the Beirgh assemblage there is so much variation between pots, even between those of the same form, that EVE's and vessel counts were not practicable.

Both sherd counts and weights are recorded for the Beirgh assemblage as standard, to provide basic quantities. However, it is considered that sherd weights are the most appropriate method for quantifying this assemblage for analytical purposes, particularly as one of the main objectives is to provide comparisons between the assemblages from different sub-phases.

3.3.3 Re-fitting

There are three prime reasons for attempting to re-fit an assemblage. Firstly, if a number of sherds fit together then a larger portion of the vessel's profile can be reconstructed, making any form descriptions and comparisons more accurate. Secondly, if more sherds fit together then there is a larger surface available for the examination of manufacturing techniques, particularly surface finish. Finally, an examination of the contexts from which re-fitted sherds come can provide indications as to the depositional processes occurring. For instance if all the sherds come from the same context then it should be largely undisturbed, whereas if the sherds come from a wide range of contexts then this pot has been scattered through some process and these contexts may be disturbed (Rye 1981: 11).

Effort was put into re-fitting sherds at various points throughout earlier post-excavation sessions on the Beirgh material. It was considered to be a hindrance to progress, and consequently only limited re-fitting of sherds was undertaken during this element of the research. This was primarily due to the enormous amount of both space and time this would necessitate with an assemblage of this size. Re-fitting is extremely difficult with hand-made low-fired pottery of this type. The range of colours, fabrics and diameters possible within the body of a single vessel can be extensive, due to the irregularities of firing, preparation of clays and hand modelling of the pot. This leaves considerable doubt as to whether sherds can be securely assigned to the same vessel. There are also additional problems such as sooting patterns or fire-clouds obscuring the surfaces of the sherds, and abrasion, which may affect the edges of the sherd and consequently its ability to be joined to other sherds. It is likely, therefore, that in some instances the same vessel has been recorded on separate occasions with separate catalogue entries. In this context, sherd weights are the most appropriate method of quantification for analysis, as sherd counts or numbers of vessels would over-emphasise vessels.

3.4 *The Catalogue*

A database was created in Microsoft Access for the cataloguing of the diagnostic pottery sherds from Beirgh. A series of 40 fields were recorded, which are briefly outlined below in Table 3-4. These fields were designed to have predetermined check-lists of attributes or tick-boxes to speed up the cataloguing process, with fields for notes and descriptions to clarify any points. Entries were made into the database using an Access form, an example of which is illustrated below (Fig. 3-1).

Table 3-4: Fields created in Access database

1	Catalogue number	21	Decoration code
2	Context	22	Firing
3	Find number	23	Firing profile
4	Phase	24	Exterior surface finish 1
5	Number sherds	25	Exterior surface finish 2
6	Weight (g)	26	Interior surface 1
7	Condition	27	Interior surface finish 2
8	Surface deposits	28	Production technique
9	Sherd type	29	Production characteristics 1
10	Form	30	Production characteristics 2
11	Form code	31	Main colour
12	Diameter (cm) (mouth or base)	32	Cracking 1
13	Girth (cm)	33	Cracking 2
14	Maximum dimension (mm)	34	Fabric
15	Thickness (mm)	35	Inclusions
16	Decorative technique 1	36	Grass marked?
17	Position 1	37	Grass temper?
18	Decorative technique 2	38	Conserved?
19	Position 2	39	Cross-fits
20	Description	40	Notes

3.4.1 Catalogue number

The catalogue number is the unique identification number allocated to each new entry into the Access database. These numbers were generated automatically by Access and provide a unique identifier for each sherd or group of sherds which is separate from the context and small find numbers.

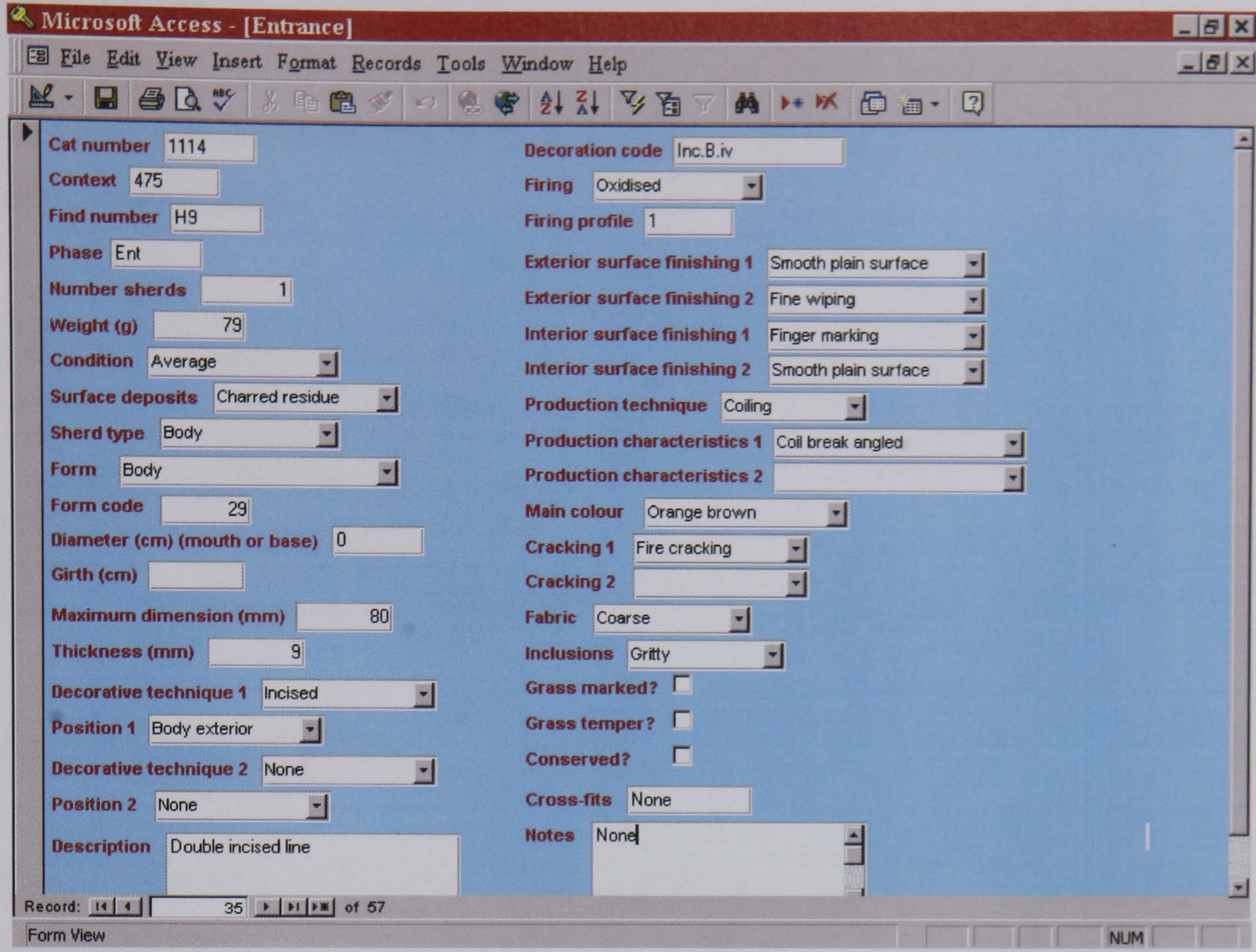


Fig. 3-1: Example of Access Database form entry

3.4.2 Context

This records the context number as it was transcribed onto the finds bag in the field.

3.4.3 Small find number

There are several separate sequences of small find number for the Beirgh assemblage, a result of numbers being allocated both during excavation, when diagnostic sherds were numbered as they were excavated, and during post-excavation where finds numbers were allocated retrospectively. In this latter case, a letter prefix was normally added to distinguish it from the main sequence of find numbers. There were inevitably a number of sherds which were given a small find number but which proved, upon examination, to be featureless body sherds.

3.4.4 Phase

The phase was determined by its context and is taken from the published report. Abbreviations used:

NEG	North-east Gallery
NWG	North-west Gallery
SEG	South-east Gallery
SWG	South-west Gallery
NE Ext L	NE Extension Lower
NE Ext M	NE Extension Middle
NE Ext U	NE Extension Upper
Ent	Entrance area unphased

3.4.5 Number of sherds

This is the number of individual sherds present which form part of the same vessel and were allocated the same ID number. Each individual sherd was counted even where they join together, except where an obviously modern break has occurred since excavation. In this case they would count as one sherd.

3.4.6 Weight

The weight in grams of the catalogue entry, regardless of the number of sherds present, was measured to the nearest whole gram.

3.4.7 Condition

This field allows an evaluation of the condition of the sherd(s). Abrasion occurs as a result of both use of the pot or sherd and post-depositional factors, and so is an indicator of function, the use-life of the vessel, and site formation processes. In the present study it is particularly significant in helping to identify possible residual sherds within a phase or context.

The categories used were:

1. Fresh
2. Average
3. Abraded
4. Very abraded

New breaks, where recognised, were not recorded as they were considered secondary to the archaeological abrasion still visible on the sherds.

3.4.8 Surface deposits

The presence of surface deposits can be closely related to function, or can be the result of the firing process, as in the case of fire-clouds. In a domestic setting they can indicate whether or not a vessel was used for cooking and how that cooking process was carried out.

The presence of iron pan, a rust-coloured, hard concretion, indicates post-depositional processes through the leaching of minerals within a deposit, and can often appear as a hollow tube attached to the sherd's surface, indicating the former presence of a root around which the ferrous oxides have accumulated. Calcareous deposits appear as a yellow, powdery, thin deposit on the sherd's surfaces, and is related to the boiling or evaporation of calcium-rich water derived from shells or the machair zone.

The categories used were:

1. None
2. Charred residue
3. Sooting
4. Iron pan
5. Calcareous deposits
6. Other

3.4.9 Sherd type

This category was designed to provide a basic division into the different elements resulting from the breakage of a vessel. Body indicates a wall sherd where no other features are present. Neck indicates a degree of concavity of the sherd, while shoulder indicates a point of flex on the vessel and so would be convex. Base is used where the base plate and a portion of the wall survives, while base angle indicates very little of the base plate survives, and base plate indicates little or no walls of the vessel are present. A false rim can be created when a body sherd breaks along a coil join, leaving the top unbonded part of the coil visible, which can look very similar to a simple rounded rim. Lugs represent a moulded piece of clay forming a projection which can be attached to either the body or the rim.

The categories used were:

1. Body
2. Rim
3. False rim
4. Base
5. Base angle
6. Base plate
7. Shoulder
8. Neck
9. Lug
10. Other

3.4.10 Form

The assemblage was divided into a series of form types during analysis and from general familiarity with the material. These forms were given a text descriptor plus a number. These are listed below, and discussed in more detail and illustrated in Section 3.5 and Table 3-7.

Table 3-5: Forms used

Number	Form descriptor
1	Holemouth
2	Holemouth with ledge
3	Upright
4	Barrel with slight neck
5	Flattened/thickened
6	Barrel/inturning
7	Slight everted
8	S-shaped/short flaring
9	Sharp everted
10	Bead/short everted
11	Shouldered jar
12	Internal ledge, everted
13	Short everted, expanded
14	Bowl
15	Bucket-shaped
16	Flaring
17	Long flaring/concave everted
18	Broken rim fragment, rounded
19	Broken rim fragment, flat
20	Broken rim fragment, angled
21	Sharp shoulder
22	Round shoulder
23	Footed base
24	Flat base
25	Omphalos base
26	Foot-ring base
27	Base fragment
28	Lug
29	Body
30	Other

3.4.11 Diameter

This field measured the external rim or base diameter. Measurement was attempted wherever sherds were large enough and was measured to the nearest whole centimetre. Measurement was not always possible because with hand-made vessels the circumference of the vessel is never likely to be a perfect circle and there are likely to be uneven portions of the rim or base. Larger sherds provide a more reliable indication of diameter than small sherds.

3.4.12 Girth

Measured to the nearest whole centimetre, this field measured the internal diameter of the vessel at its widest point, its girth. This was only possible where a sufficient portion of the vessel's profile survived and in practice very few girth measurements were possible.

3.4.13 Maximum dimension

This field measured the maximum dimension across each sherd to the nearest half centimetre. It was designed to give an indication of the size of the sherd, which can be used to give an indication of the degree of brokenness of the sherds, and suggest site formation processes.

3.4.14 Thickness

This field indicates the thickness of each sherd, and was measured to the nearest millimetre.

3.4.15 Decoration

The descriptors for decoration were divided into two separate categories, technique and position. Two entries could be made under each of these categories to allow the recording of different elements of the decorative motif. This allows analyses of the way in which combinations of techniques are placed in different positions across the vessel.

3.4.15.1 Decorative technique

Four main decorative techniques were identified, with a fifth 'other' category. These are:

1. Applied
2. Impressed
3. Incised
4. Channelled
5. Other

3.4.15.2 Position

This field provides a record of the position of the different decorative techniques. The categories used were:

1. Body exterior
2. Body interior
3. Rim exterior
4. Rim interior
5. Rim top
6. Neck angle
7. Shoulder
8. Between shoulder and neck angle
9. Between shoulder and base
10. Base exterior
11. Base interior
12. Other

3.4.15.3 Description

This field provides a free text description of the decoration on the sherd, to provide further details of the motif and note anything unusual or interesting.

3.4.15.4 Motif Code

This field was added once the cataloguing had taken place. The elements which make up the decorative motifs were divided according to their major technique (applied, impressed, incised, channelled, other), and each element was given a separate code to identify it. These elements are illustrated in Section 3.8. Combinations of individual elements to form more complex motifs could thus be recorded.

3.4.16 Firing

The categories used were:

1. Oxidised
2. Unoxidised
3. Irregularly fired
4. Overfired

3.4.17 Firing profile

This field provides a visual representation of the cross-section of the sherd regarding colour, and is an important indicator for the firing conditions, process, and types of clay.

A number in this field refers to the chart below: (after Rye 1981: 116)

Table 3-6: Firing profile descriptions

No.	Description
1	No core, fully oxidised
2	No core, fully reduced, light colours
3	Large dark core, light surfaces, reduced or oxidised, diffuse core margins
4	Narrow dark core, light surfaces, reduced or oxidised, diffuse core margins
5	Large light core, dark surfaces, diffuse core margins
6	Narrow light core, dark surfaces, diffuse core margins
7	Narrow light core, dark surfaces
8	No core, fully reduced, dark colours
9	Sharply defined large dark core, light surfaces
10	Sharply defined narrow dark core, light surfaces
11	Double core
12	Irregularly fired
13	Light exterior, dark interior, no core
14	Light interior, dark exterior, no core

3.4.18 Exterior and interior surfaces

Four separate fields were created for surface finish, two each for the interior and exterior of the sherd or vessel, ensuring that more than one variable could be recorded. This category can indicate the level of care involved in the manufacture of the vessel, can tell us something of the manufacturing processes, and may indicate something of the function of the vessel.

Surface finish can be affected by post-depositional processes and can be obscured by residues and abrasion; in these circumstances 'none visible' was used.

The categories used were:

1. None visible
2. Smooth plain surface
3. Burnished
4. Polished
5. Fine wiping
6. Rough wiping
7. Very coarse wiping
8. Paddle/anvil
9. Scraped
10. Finger marking
11. Slipped
12. Trimming
13. Finger drawn
14. Roughened
15. Other

3.4.19 Production Technique

This field allowed the selection of one of the four main methods of primary forming of a vessel.

1. Coiling
2. Slab
3. Pinching
4. Drawing

3.4.20 Production Characteristics

This category was used to record any specific instances where the manufacturing technique could be recognised, either on the surface or, more usually, in the section of the sherd. Two different fields allowed multiple characteristics to be recorded.

1. Coil bulge on surface
2. Coil fold on surface
3. Coil break angled
4. Coil break tongue-and-groove
5. Separate rim
6. Base with tongue, angled join
7. Base with tongue, tongue-and-groove join
8. Base without tongue
9. Finger pinched
10. Finger drawn
11. Folded rim

3.4.21 Main Colour

A single entry was used to indicate the main colour of the sherd(s), rather than separate descriptions for each surface and the core. This was deemed sufficient due to the detailed recording of the firing profile.

The categories used were:

1. Yellow
2. Pink
3. Purple
4. Red
5. Dark red
6. Pale orange
7. Orange
8. Orange brown
9. Light brown
10. Brown
11. Dark brown
12. Reddish brown
13. Reddish grey
14. Greyish brown
15. Dark greyish brown
16. Pale grey

17. Grey
18. Dark grey

3.4.22 Cracking

This field records any damage to the sherd in the form of cracks and fractures. These can be highly indicative of particular forming or firing processes. Two separate fields allowed multiple variables to be recorded.

1. Laminar fracture
2. Irregular edge fracture
3. Regular edge fracture
4. Drying cracks
5. Star cracks
6. Dunting
7. Fire cracking
8. Fine network of cracks
9. Spalling

3.4.23 Fabric

Fabrics were only recorded in general terms, and a series of fabric types was not devised. This is explained more fully in Section 3.8 below.

The categories used were:

1. Fine
2. Medium
3. Coarse

3.4.24 Inclusions

This category gives an indication of the proportion of inclusions, i.e. non-plastic material, within the ceramic body to the clay minerals, and was categorised as follows:

1. None
2. Sparse
3. Moderate
4. Common
5. Abundant

These simple descriptive indices were based on the inclusion density charts provided by the Prehistoric Ceramics Research Group (1992), and are equivalent to the following percentage contents:

1. None	= less than 1%
2. Sparse	= more than 1% but less than 3%
3. Moderate	= more than 3% but less than 10%
4. Common	= more than 10% but less than 25%
5. Abundant	= over 25%

3.4.25 Grass marked and Grass temper

These fields use check boxes to indicate the presence or absence of grass marking and grass temper, the term 'grass' here being used as shorthand for any kind of vegetal impressions, including seeds, straw, heather and grasses.

Grass marking was defined as the presence of more than 1% of vegetal impressions on the surfaces of the sherd, and grass temper was defined as more than 1% of visible vegetation voids present within the fabric of the clay, as seen within the broken edge of a sherd. The percentages were estimated using the inclusion density charts as provided by the Prehistoric Ceramics Research Group (1992).

3.4.26 Conserved

A simple check box indicates the presence or absence of conservation of the sherds.

3.4.27 Cross fits

This field provides a cross-reference to any other sherds which fit onto the current catalogue number.

3.4.28 Notes

Any additional comments were noted here in text form.

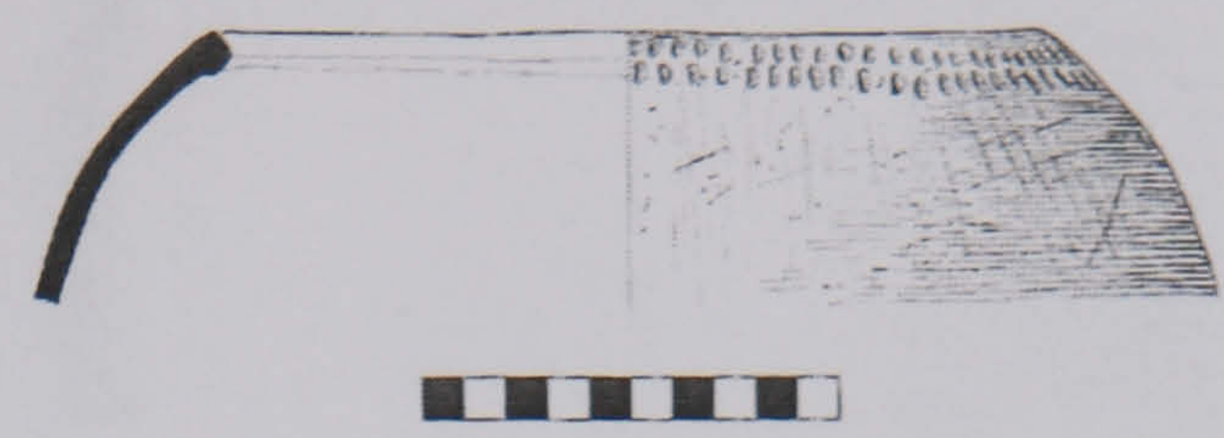
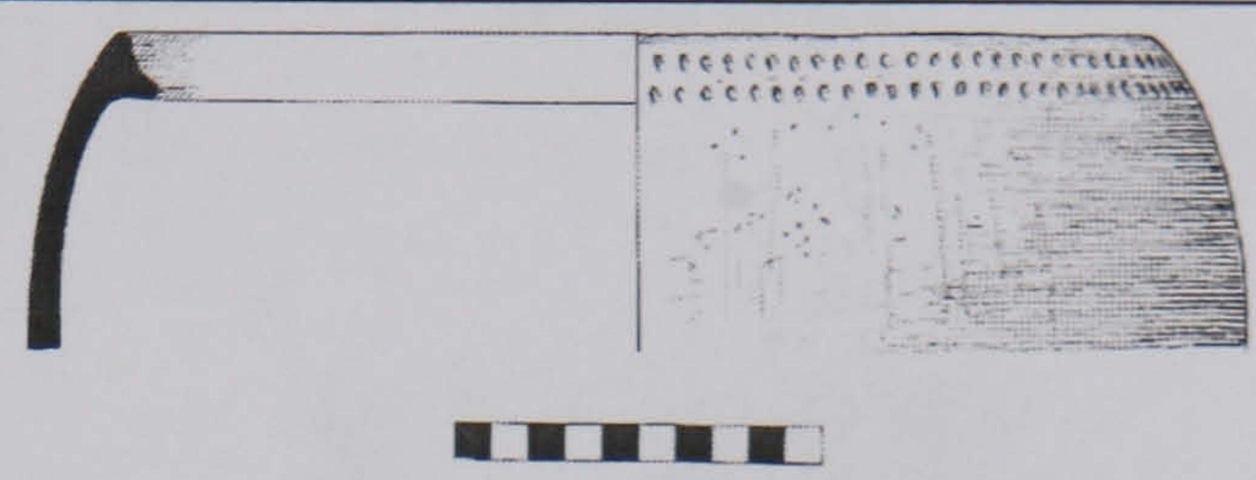
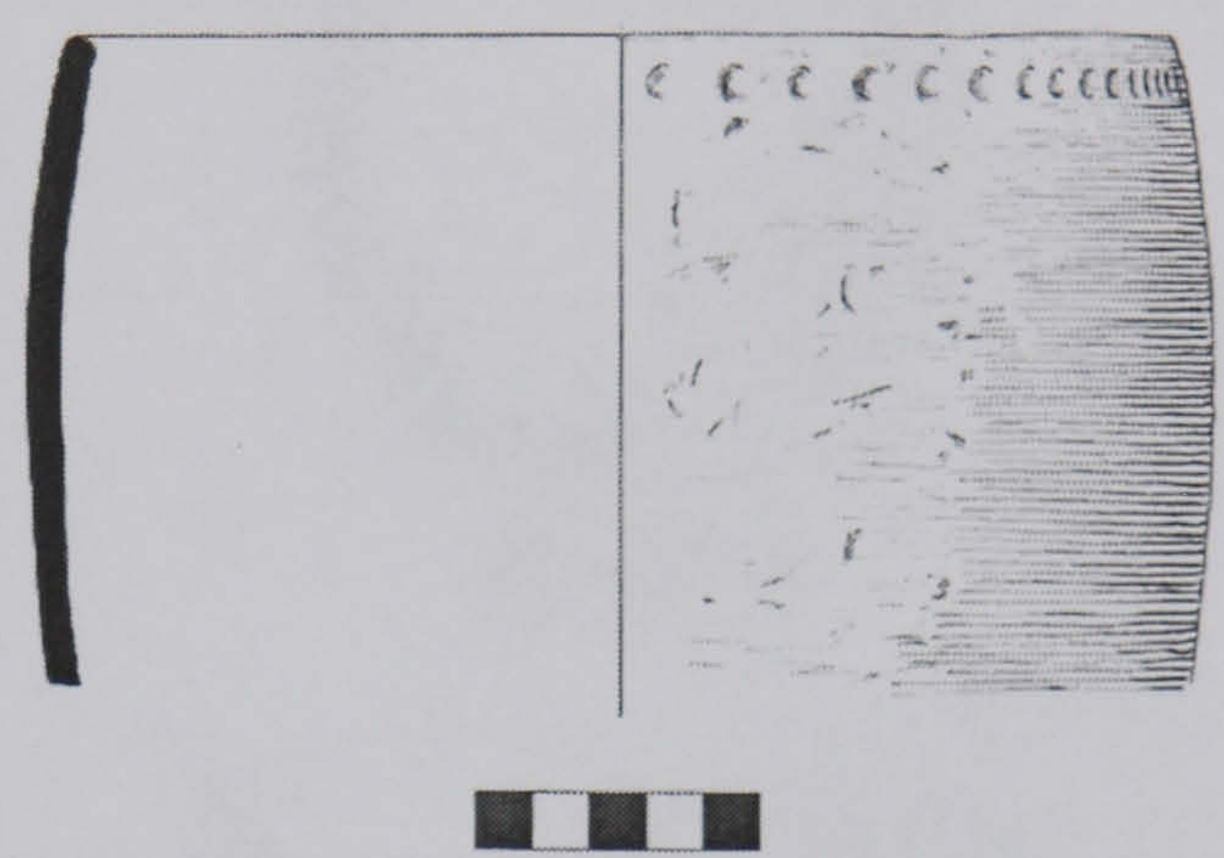
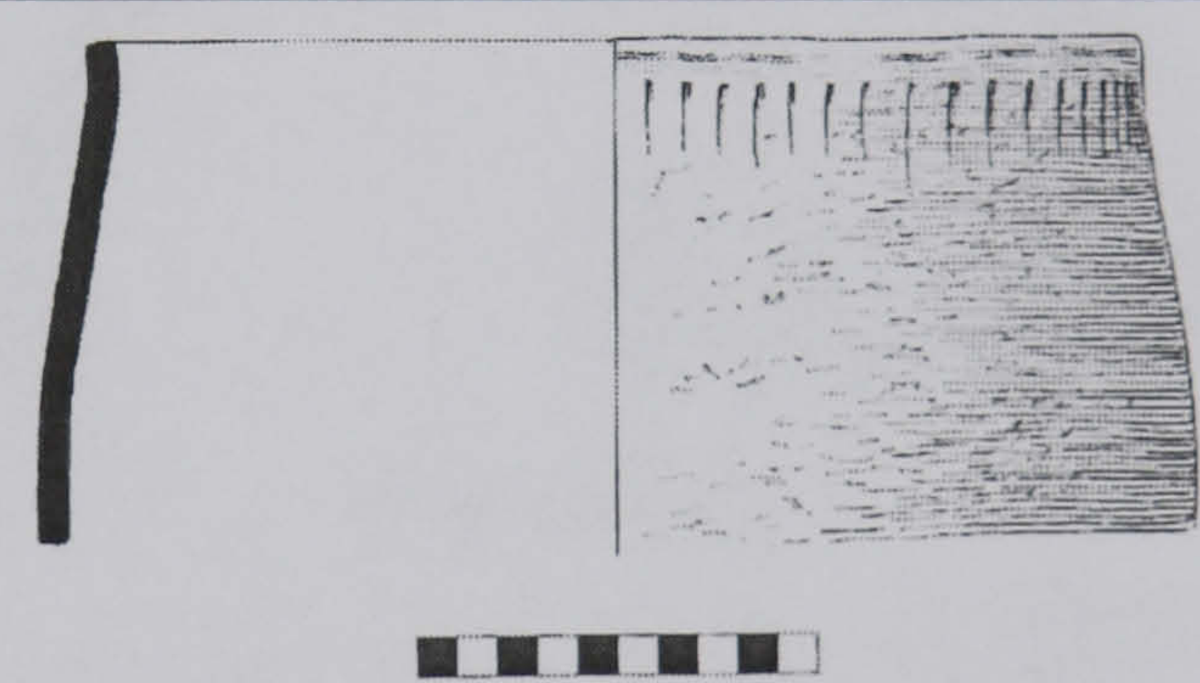
3.5 Forms

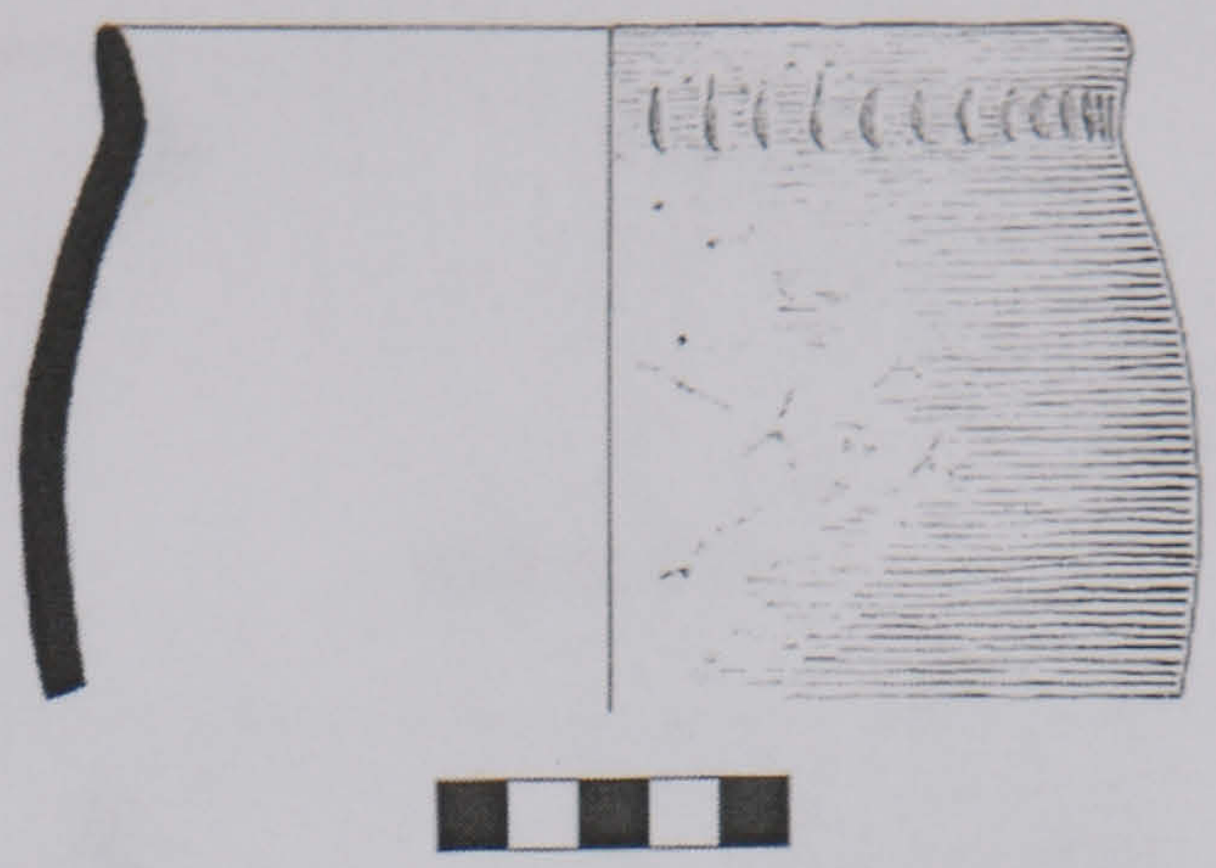
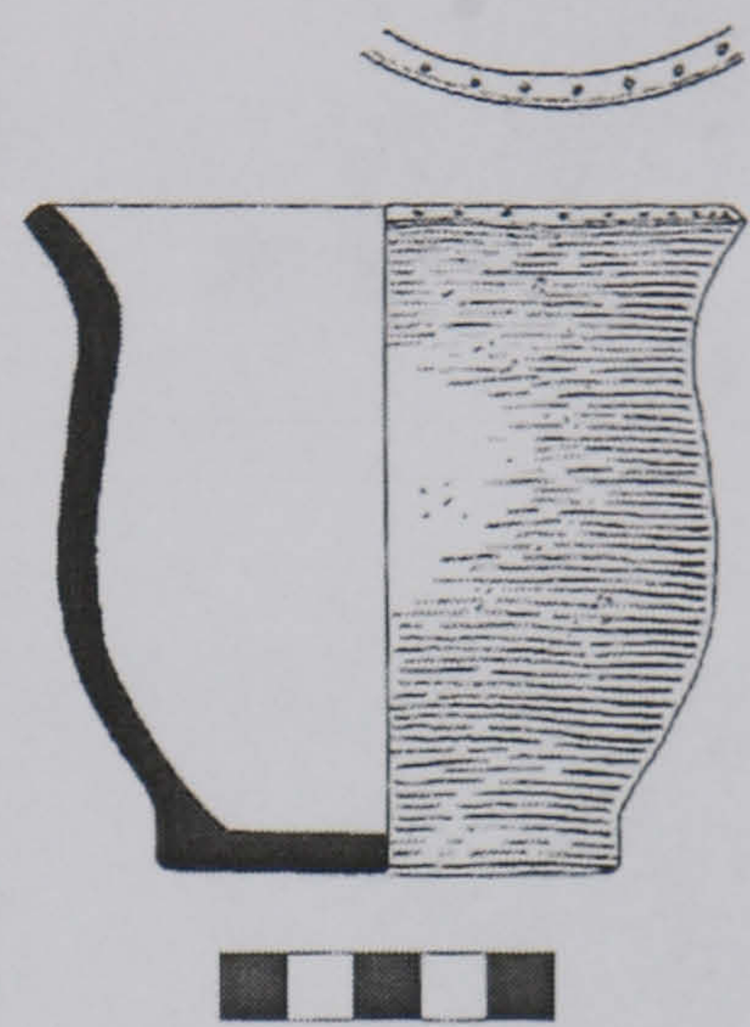
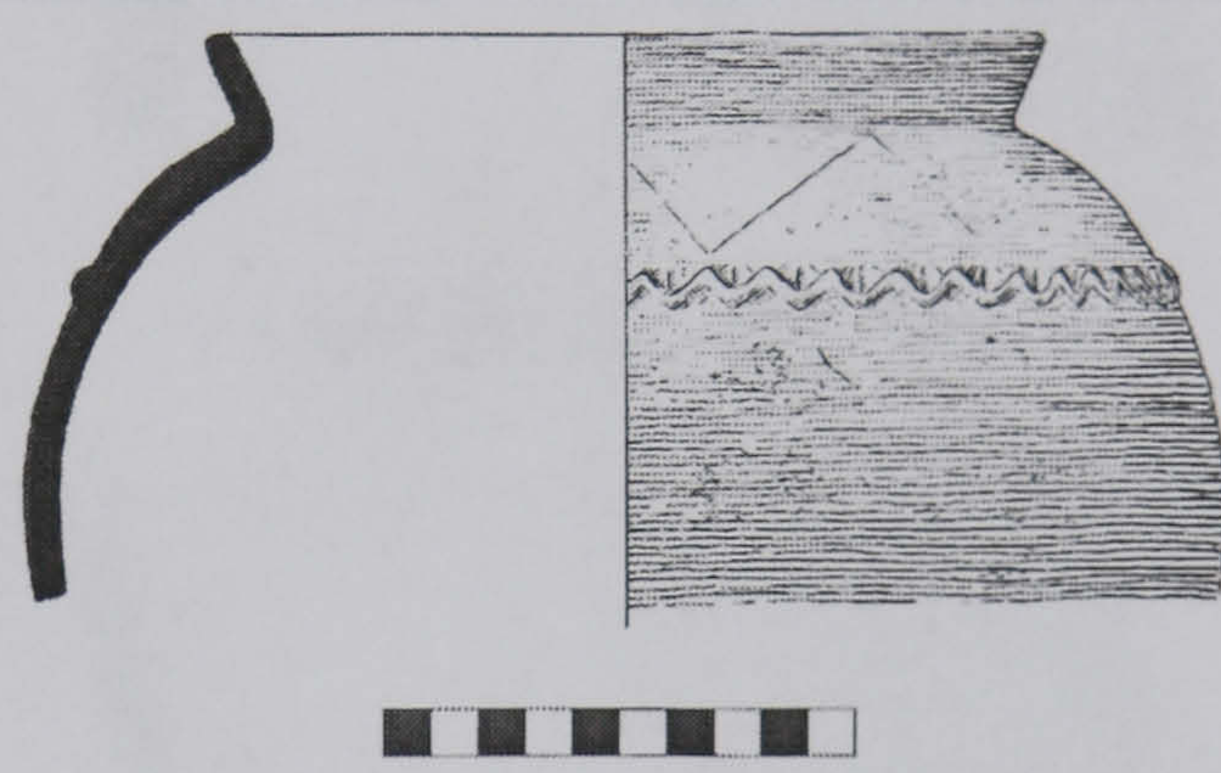
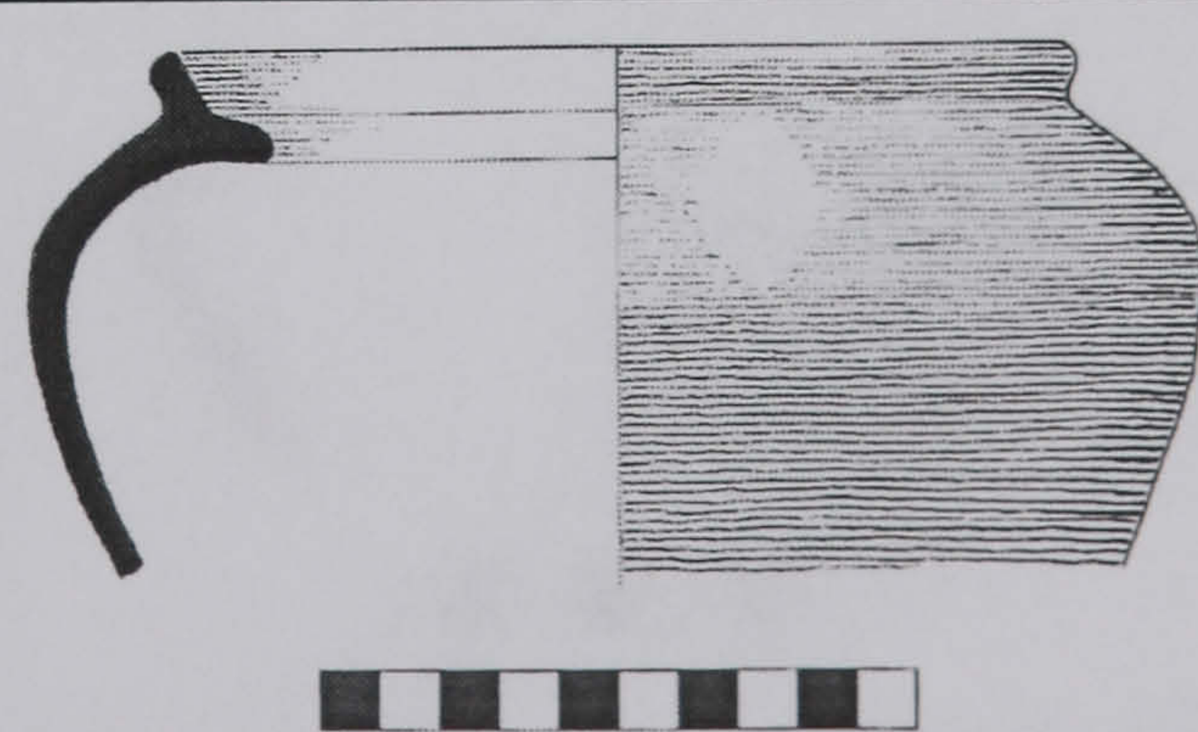
Thirty individual form types were identified. A brief description of each and a representative illustration are given here. Very few complete profiles were recovered, and so form descriptions necessarily refer to the different areas of a vessel's body.

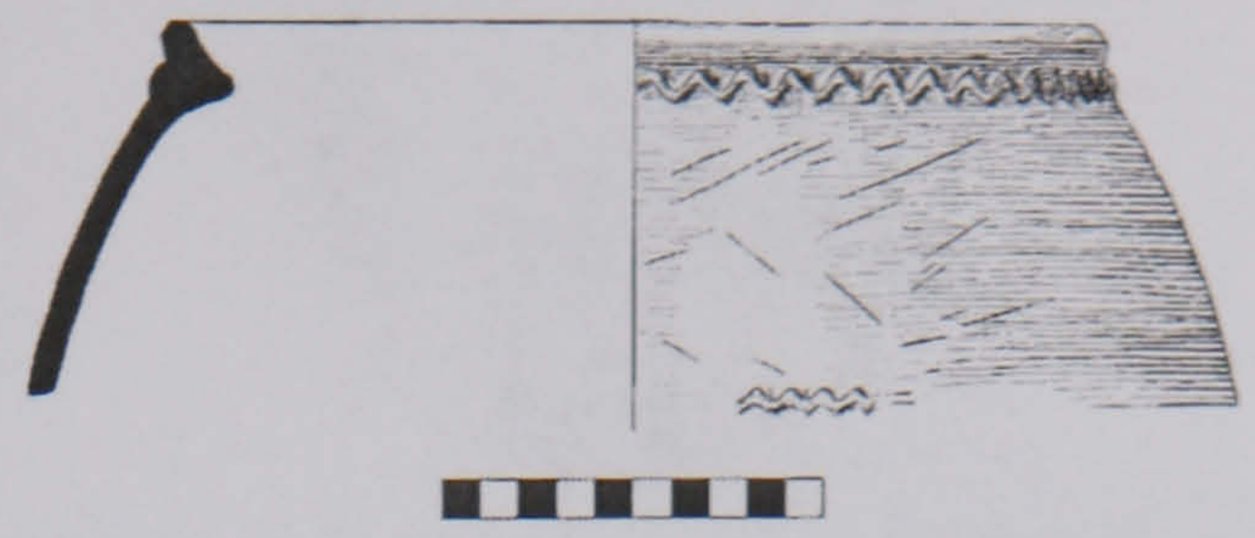
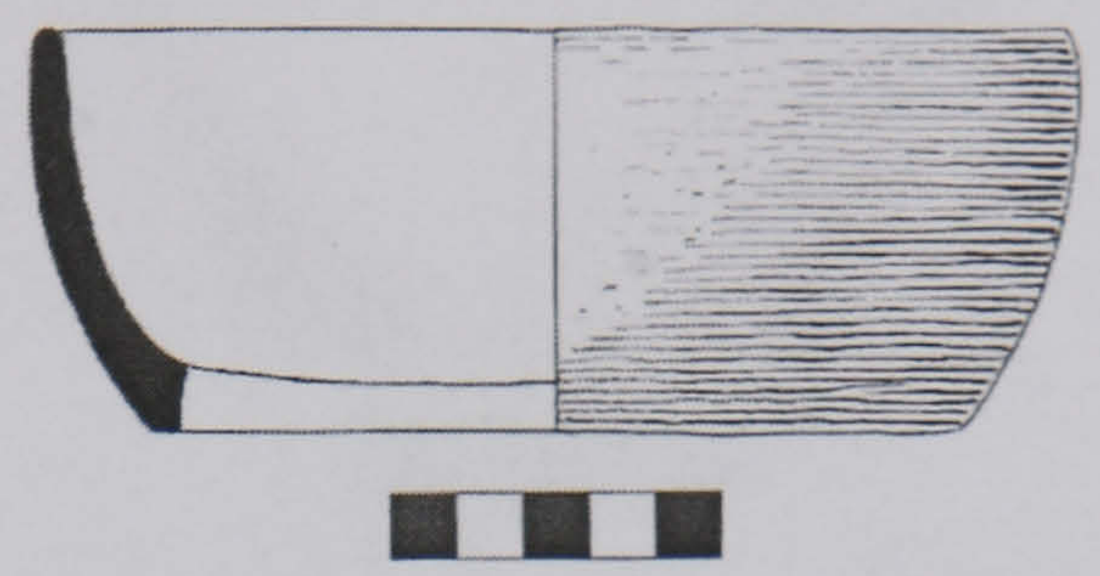
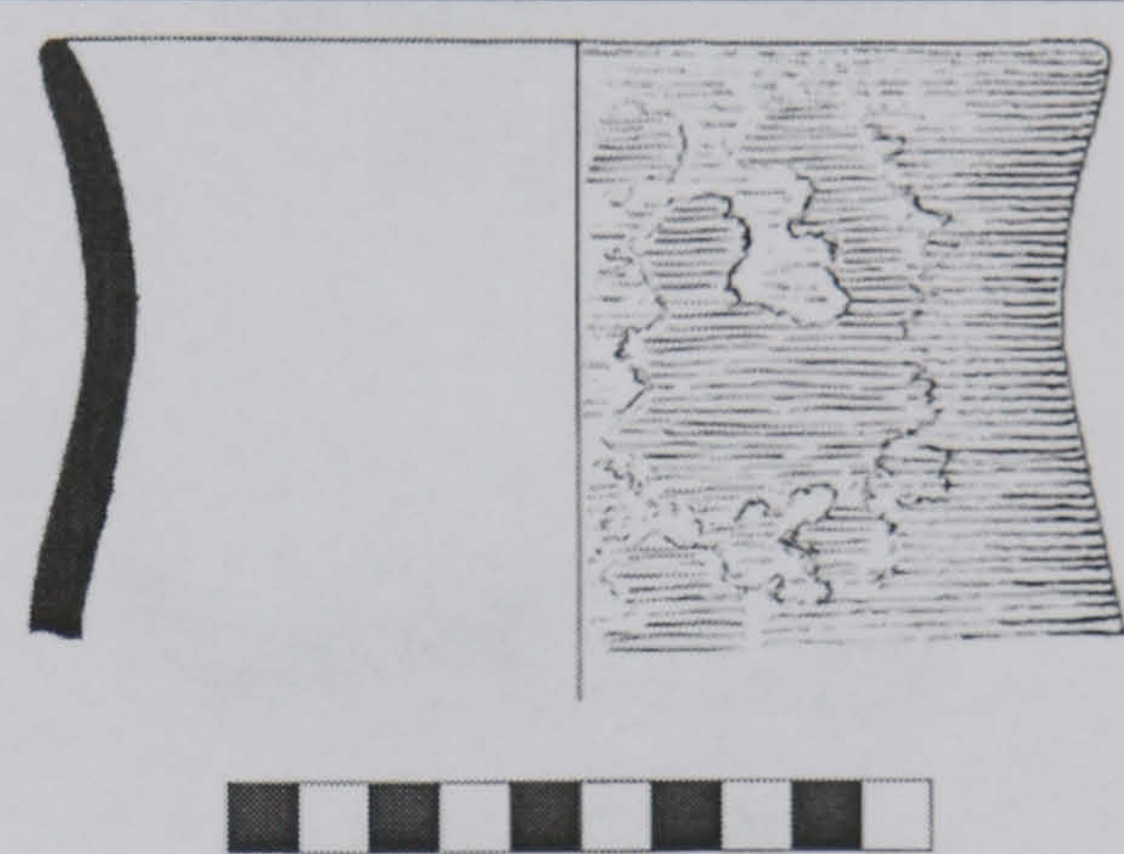
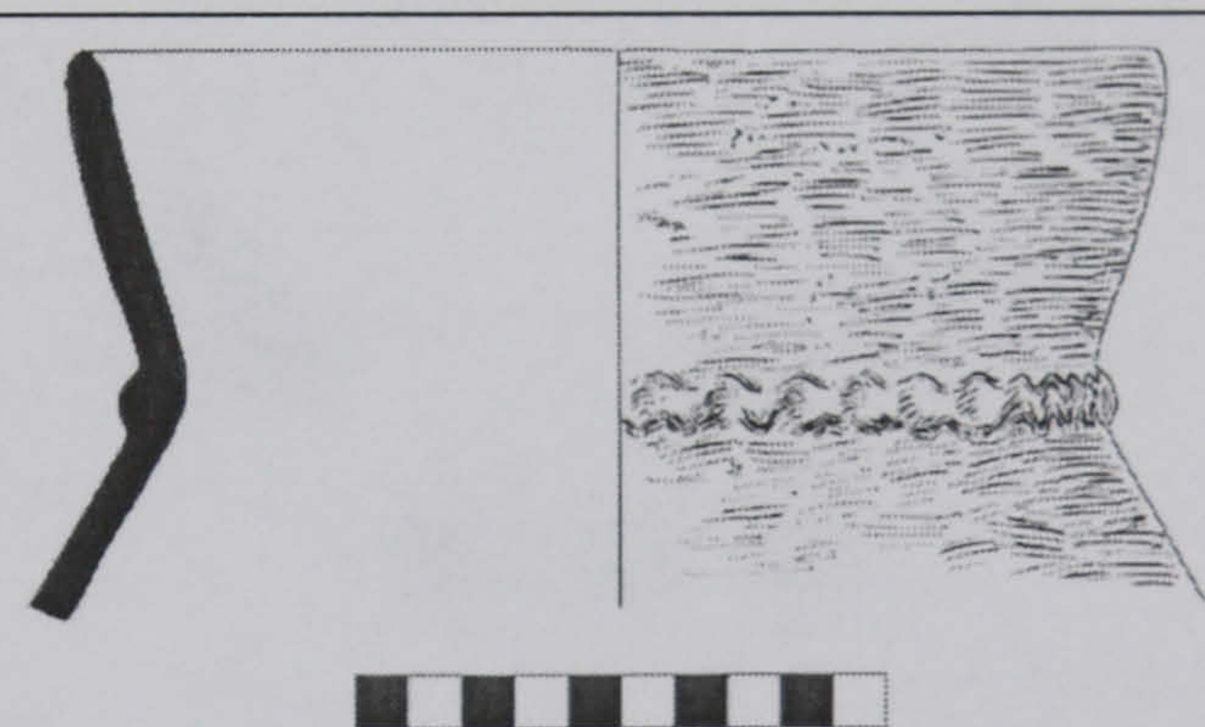
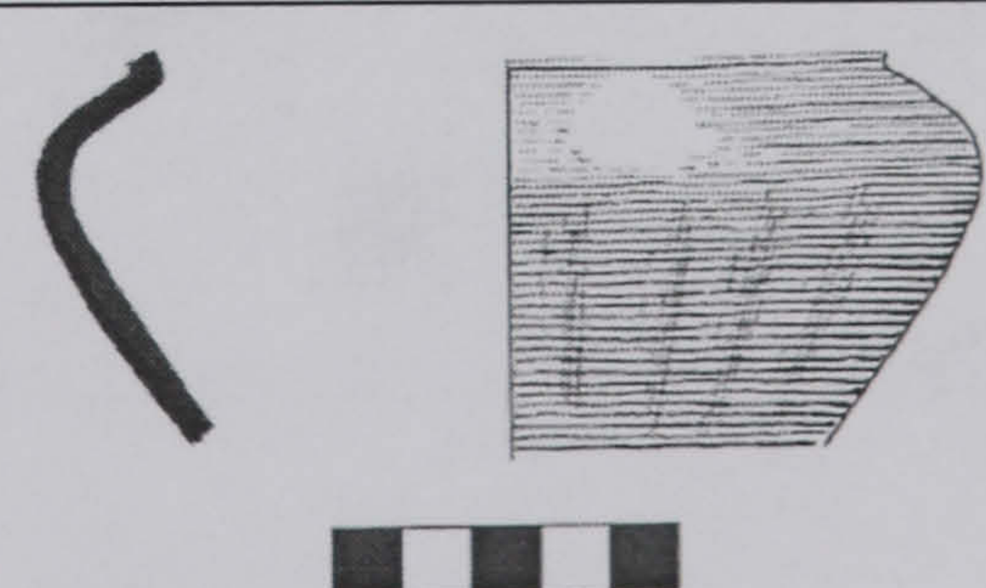
Twenty rim forms were identified, three of which are simply descriptors for small rim fragments where the overall form cannot be identified any further than that it has a round, flat or angled rim top (Forms 18, 19 & 20). It is possible that some of these rim types can be mistaken for another if insufficient profile remains - for example, an upright rim could conceivably be a shouldered jar or bucket where the rim angle or shoulder type cannot be seen. Familiarity with the material, and checking the types of breaks present can help to distinguish between rim forms which look very similar.

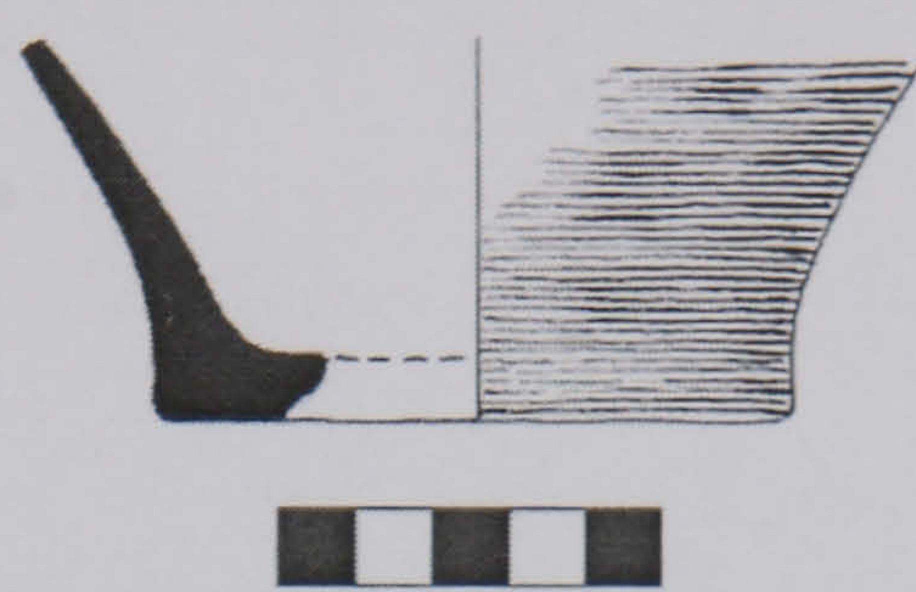
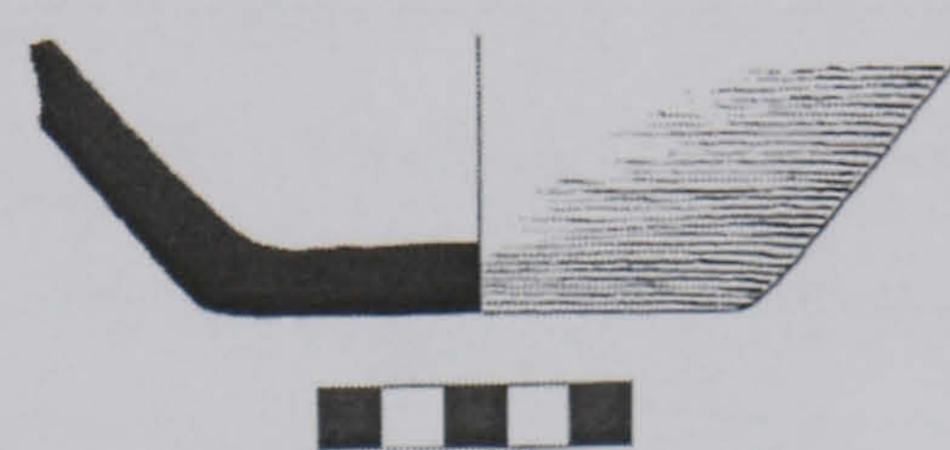
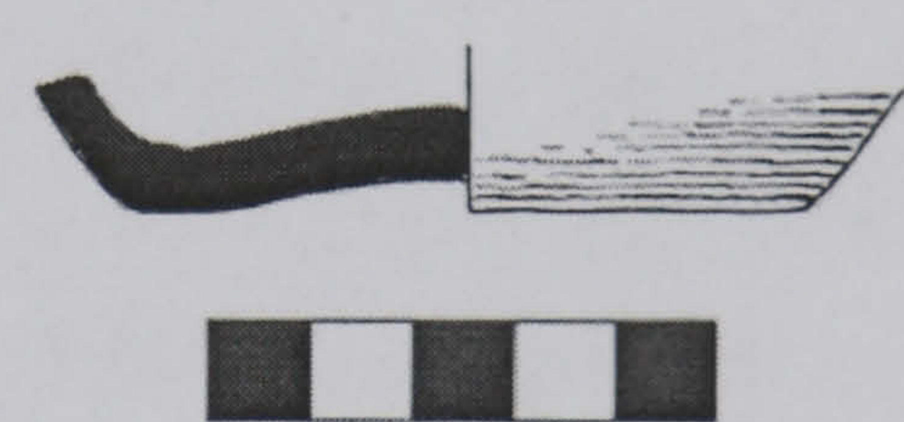
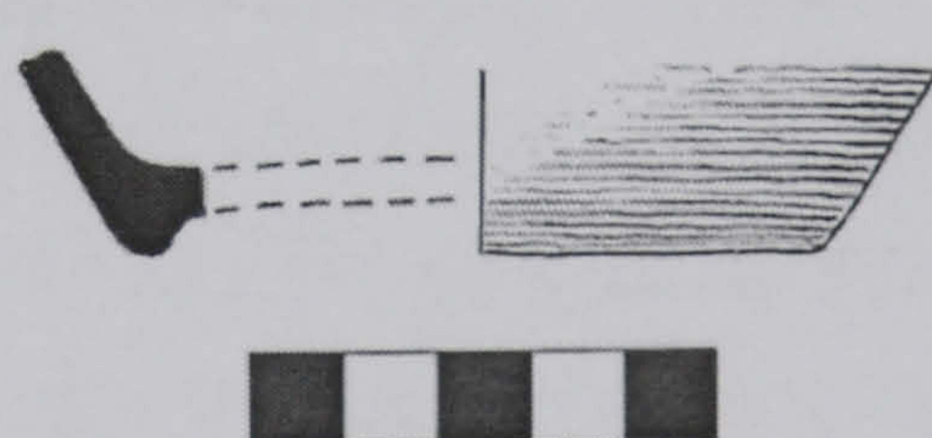
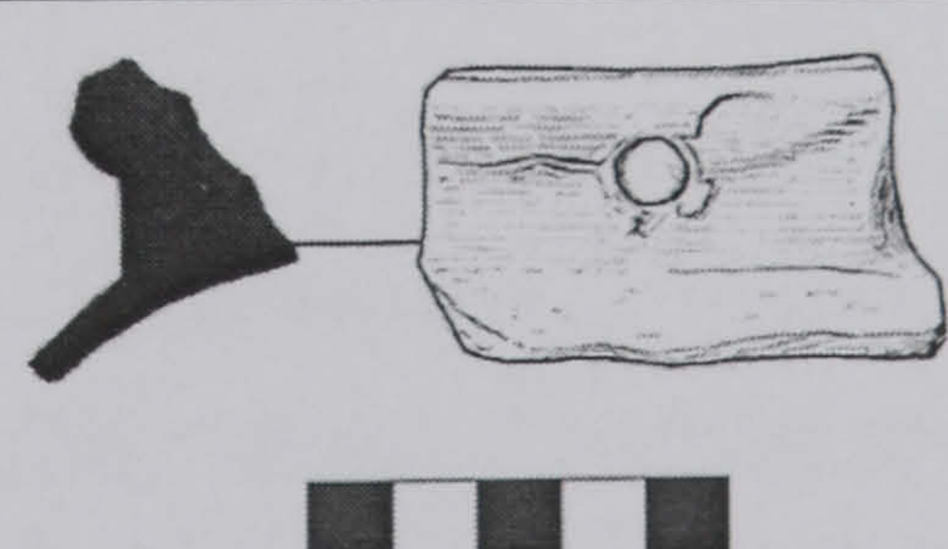
There are four identifiable base types with a fifth category of base fragment (Form 27) which covers those sherds without any identifiable features. Other categories include lugs (Form 28), body sherds with no morphological features present (Form 29), and a category of 'other' (Form 30) for sherds which do not fit into any of the prescribed forms.

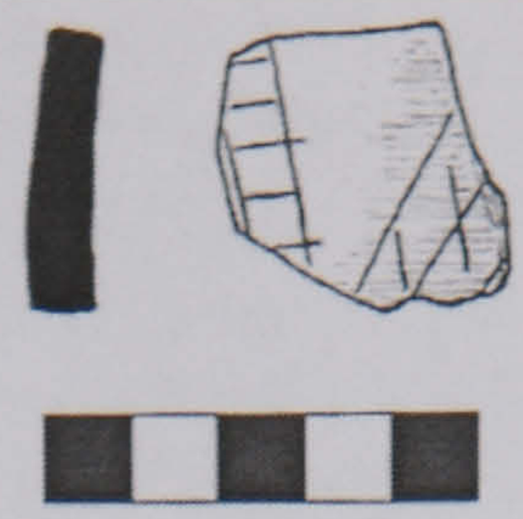
Table 3-7: Description of forms

Form code	Description	Example
1	Holemouth: a large globular jar with simple rim forming a closed mouth	 cat. no. 2215
2	Holemouth with ledge: the same as Form 1 with the addition of a moulded internal projection or ledge	 cat. no. 2225
3	Upright: a straight-sided vessel with simple upright rim to give a neutral mouth	 cat. no. 2140
4	Barrel with slight neck: a barrel-shaped vessel with a simple pinched rim forming a very short/gentle neck	 cat. no. 2073
5	Flattened/thickened: little profile present on any of the Beirgh examples, showing a flat-topped rim with bulbous profile from flattening or thickening of both sides	 cat. no. 2111
6	Barrel/inturning: simple barrel-shaped vessel with no rim modifications to give a closed mouth	

7	Slight everted: everted rim with the angle of eversion slightly off vertical, no internal sharp angle on the neck, less globular body	 cat. no. 2168
8	S-shaped/short flaring: s-shaped profile, shorter than a flaring rim, no sharp internal neck angle	 cat. no. 2153
9	Sharp everted: everted rim with a sharp angle on the neck's interior, globular body	 cat. no. 2191
10	Bead/short everted: rolled or thickened rim to give a sub-circular profile, very short everted rim	 cat. no. 2214
11	Shouldered jar: upright rim above a sharp shoulder	
12	Internal ledge, everted: everted rim with an internal projection or ledge present	

		cat. no. 2227
13	Short everted, expanded: T-shaped short everted rim, slightly concave interior surface	 cat. no. 2147
14	Bowl: simple bowl shape to give a neutral mouth	 cat. no. 2180
15	Bucket-shaped: simple vessel with splayed straight sides and open mouth	
16	Flaring: gentle s-shaped profile with constricted neck, no internal sharp neck angle	 cat. no. 2218
17	Long flaring/concave everted: long everted type with an internally concave rim	 cat. no. 2152
18	Broken rim fragment, rounded	
19	Broken rim fragment, flat	
20	Broken rim fragment, angled	
21	Sharp shoulder: body shapes where a pronounced point of inflection occurs at the shoulder, for example in a carination	 cat. no. 2150

22	Round shoulder: simple globular body shapes with no pronounced points of inflection	 cat. no. 2209
23	Footed base: presence of a small to pronounced foot at the base of the wall's exterior, to give a flared wall	 cat. no. 2110
24	Flat base: refers to the shape of the base as it meets the wall rather than to the underside of the base. Here the wall extends directly from the base at a straight angle, giving a flat or sometimes convex appearance to the wall's exterior	 cat. no. 2107
25	Omphalos base: presence of a concave underside to the base	 cat. no. 2114
26	Foot-ring base: a separate ring of clay has been added to the edges of the base's underside, upon which the base stands	 cat. no. 2138
27	Base fragment	
28	Lug: projections, perforated or not, extending from the vessel's rim	 cat. no. 2104

29	Body: wall sherds with no morphological features present	 cat. no. 2136
30	Other: miscellaneous forms	

3.6 Fabric

Despite the richness and variety of style within prehistoric ceramics in the Hebrides, the study of their fabrics is particularly difficult. The nature of the pottery presents peculiar difficulties, namely that there are no wheel-thrown or imported wares and the pottery is manufactured by hand and fired without formal kiln structures. This results in a great deal of variability within the pottery.

As discussed in Chapter 1, the aim of Hebridean pottery studies has previously been simply to characterise the pottery types from different periods in order to provide dating evidence through typology (e.g. Young 1966). This could then be used to back up whichever interpretation of the dating and typology of the structures is preferred by individual authors (e.g. MacKie 1997). This led to a reliance on single decorative and morphological traits, partly due to an early recognition that traits changed over time and could apparently be associated with particular structural types (e.g. 'Wheelhouse Ware'), and partly because specific traits could provide links to southern English or continental types and thus provide dates.

Another problem has exacerbated this over reliance on stylistic traits - the particular difficulties associated with establishing fabric categorisations for Hebridean pottery. The results of Patrick Topping's Neutron Activation Analyses (1985) had a profound effect and introduced a marked note of pessimism into fabric studies of Hebridean pottery which has proven difficult to shake off. Although it is possible to criticise Topping's methodology (see Lane 1990), this has not prevented this thinking from becoming entrenched. Topping concluded that:

> "...the examination ...has demonstrated that no one vessel type or decorative feature and virtually no chronological context has a clay source and potting technique which is exclusive to that archaeologically defined group. Patterns which are of uncertain definition do occasionally occur... but the general implication which is drawn from the results is that later prehistoric pottery in the Western Isles was locally produced and locally distributed."
> (Topping 1986: 127-128)

Hand-in hand with these conclusions is an assumption that, as the geology of the islands is apparently homogenous, then all the clays on the islands must be identical too, or at least very similar. This would effectively result in no differences between fabrics, and therefore any study of it would be fruitless.

So, this has led to a position whereby fabric is not routinely analysed in Hebridean pottery, in contrast to successful studies elsewhere in the British Isles (e.g. Morris 1997). Fabrics are instead treated in one of two ways, each of which is considered peripheral to the 'real' analysis of stylistic traits and forms. The fabrics are either ignored completely, with simply a passing statement to the effect that they are local and contain minerals derived from local gneiss (e.g. Campbell 1991, LaTrobe-Bateman 1999), or attempts are made to produce fabric classifications which record what is visible on a macroscopic level, and are concerned simply with the varying proportions and sizes of the same small suite of minerals within the fabric (e.g. Lane 1983), again usually stated as deriving from gneiss and concentrating on minerals such as quartz, feldspar and mica.

Therefore, due to the lingering of culture-historical modes of analysis and a perceived difficulty with fabric analysis, and for the want of any demonstrably better techniques, the study of Hebridean pottery has been somewhat limited in recent years. There has been an emphasis on stylistic attributes rather than on pottery's social or economic function, with fabrics deemed insignificant or impossible to classify.

However, although the solid geology (Fig. 3-2) of the islands *is* largely homogenous, dominated as it is by Lewisian Gneiss, even here there are variations, such as basalt dyke intrusions on south-west Harris and sedimentary rocks such as sandstone around Stornoway (Smith & Fettes 1979, Fettes *et al.* 1992). More importantly however, the overlying drift geology is highly complex due to the nature of glaciation on the islands (see Gordon & Sutherland 1993: Chapter 12 for details), and it is this drift geology which has resulted in glacial deposits containing primary clays. Where these have been recorded on the north-west coast of Lewis (von Weymarn 1974), a large number of geologically distinct clays have been recorded, and although it may be true to say that they contain many of the same basic minerals, namely quartz, feldspars and micas, it is possible to distinguish between these clays as each has a particular 'signature'. This would, however, require detailed thin-section analysis of the clay sources.

In this context then, only with detailed thin-section analysis of archaeological material and a correspondingly detailed analysis of the surrounding landscape and clay deposits, would it be possible to establish definitive fabric types and to pinpoint clay sources. Thin-section analysis of Hebridean pottery would be an extremely productive avenue for research. A recent study demonstrating its utility took place on material from Northton, Harris as part of the publication of this site (Simpson & Murphy in preparation). Thin-section analysis was undertaken on sixteen sherds from Neolithic, Beaker, Late Bronze Age, Iron Age and Medieval/post-Medieval pottery types (Phillips unpublished). These dates of these sherds had previously been identified by the present author on the basis of form and from familiarity with fabrics from all periods within the Western Isles (Johnson in preparation). The results indicated that on a microscopic level there are significant differences between periods, that many of these differences corroborate observations made by eye, and that the source of the mineral particles is likely to be very local to the site.

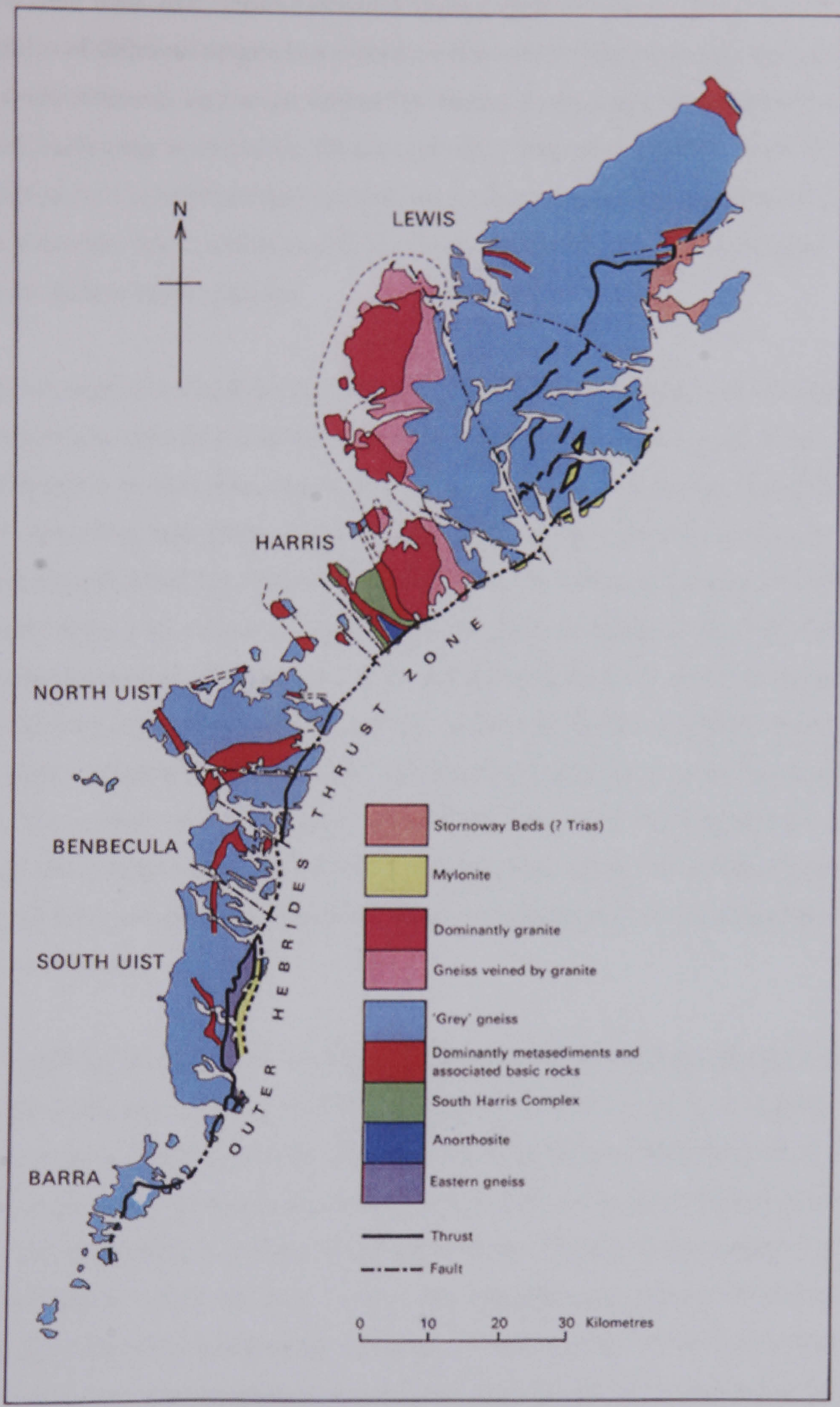


Fig. 3-2: Simplified geological map of the Western Isles (from Smith & Fettes 1979: 78)

It is clear then, that without detailed thin-section analysis it is impossible to detect fabrics of different origin, but extensive thin-sectioning is beyond the remit of the current research, and so an alternative means is necessary. Fabric analysis without thin-sectioning is not futile. On the contrary, there are ways in which fabric can be approached without simply reciting the varying proportions of mineral content on a macroscopic level, which would result in a much fuller understanding of prehistoric potters' choices.

As has been discussed already, the amount of variation across vessels in thickness and colour can make it difficult to ascribe sherds to a single vessel. There are also differences in the types, sizes and quantities of inclusions across a single vessel due to variability during the clay preparation stage of manufacture. For example, insufficient kneading will result in an uneven distribution of inclusions through the body of the pot, or different quantities and types of inclusion may be added dependent upon which feature of the pot is being built, i.e. more and larger inclusions in the base, less and smaller in the rim. Rather than attempting to produce a fabric type-series, then, the approach taken here relies on simple divisions into broad fabric types (coarse, medium, fine), with quantities of inclusions based on visual percentage estimation charts and divided into sparse, moderate, common and abundant. Any unusual fabrics on a macroscopic level will be identifiable.

In addition to the mineral component, grass marking and grass temper can be found. The term 'grass' is used here as shorthand for any kind of vegetal impression, including seeds, straw, heather and grasses. The presence of one does not necessarily indicate the presence of the other, as surface markings can be made while the vessel is wet and being formed and/or dried. The presence of grass impressions within the body of the fabric suggest more strongly that they have been deliberately added as temper. A figure of 1% is used as an arbitrary cut-off point, below which the presence of vegetal inclusions could be considered to be accidental and not intentionally added. However, some clays may well have plentiful naturally occurring organic matter such as roots and rootlets, which could be deliberately chosen or avoided because of this, although this material can be removed easily by levigating the clay and floating off the organic matter. The addition of vegetal material into the body of the clay can aid its workability and help prevent excessive shrinkage during the drying and firing process. However, too much vegetal matter will result in an increased level of porosity due to the voids left within the body after the material has burnt out during firing, which may weaken the vessel. The presence of grass marks on the surfaces of a vessel, particularly the exterior, can indicate something of the manufacturing process - chopped grass could be used much in the same way as sand to prevent the wet clay from sticking to the working surface during manufacture, or could indicate that the wet vessel was laid outside to dry. Vessels could also be deliberately rolled in vegetation to produce a surface effect, perhaps for decorative purposes. The use of dung as a temper has been attested in a number of ethnographic studies of potting (e.g. Gibson & Woods 1997).

Rather than only using macroscopic definitions of fabric types, based around varying proportions of quartz, mica, and feldspar, far more information of a more useful nature can be gained by examining fabric in conjunction with manufacturing techniques and processes. It is of much more interest to analyse fabric alongside manufacturing techniques and processes, forming techniques, firing, surface finish, type and position of decoration, vessel size and shape, and chart their variability or similarity within and between types and/or phases. By using both stylistic and manufacturing changes it will be possible to pinpoint episodes of radical or gradual change, and so provide explanations of ceramic change with reference to the people actually using these pots and making decisions about their manufacture.

3.7 Manufacturing Processes

So, as stated above, one of the prime concerns is with discerning patterns in the manufacturing process. Manufacture can be divided into two principal procedures, forming and firing. These will be discussed here.

3.7.1 Forming

The forming process can be broken down into three parts: the primary forming, where the basic shape of the vessel is constructed; secondary forming, where the shape of the vessel is refined; and finishing, where any further treatment is given to the vessel's surfaces. There can be a degree of overlap between these stages, and later stages may obscure or obliterate earlier ones. Aspects of these stages can be distinguished from marks left on the surfaces of the vessel, or seen either in the sherd cross-section or from the way a sherd has broken.

There are four main primary forming techniques, coiling, slab-building, pinching and drawing, as described by Rye (1981). Coiling uses either individual rings superimposed one on top of the other or a continuous roll of clay wound round. Slab building is more appropriate for square sided or very large vessels and involves the joining of flat 'belts' of clay. Pinching is only suitable for very small pots which can be moulded with the fingers from a single lump of clay. Drawing refers to the construction of a pot from a single lump of clay whereby once the lump has been opened, the clay is then dragged upwards by the fingers to form the walls. There are no wheel-thrown pots during this period in the Hebrides, apart from the occasional sherd of imported Roman Samian Ware (e.g. at Beirgh, find no. 773).

Secondary forming includes methods such as trimming, scraping, and paddle-and-anvil. These methods are generally used to refine the shape of the vessel, thin the walls, or remove excess clay. Trimming and scraping may be undertaken with a knife, bone, shell, or other sharp edge, and leaves striations and dragged inclusions on the surface. Paddle-and-anvil is a technique whereby the vessel is beaten with an implement on the outer surface, against a solid anvil (such as a pebble) held on the interior of the pot. This helps to bind the coils of a pot, evens out the wall thickness, and can be used to refine the shape of the pot. It leaves a series of overlapping impressions on both the interior and exterior, replicating the shape and size of the paddle and the anvil.

The final stage before the pot is left to dry out to a point where it can then be fired involves surface finish. Surface finishing can be decorative and functional in intent; for example, while burnishing and polishing provide a pleasing aesthetic finish, they are also useful in reducing the porosity of the pot's surface. A variety of wiping techniques can be used, which leave striations on the surface of the vessel, including wiping with the hands, or with a cloth or organic pad (such as grass), to produce a fairly smooth surface, or through rougher combing to produce a textured surface. Slipping, whereby a thin suspension of clay in water is washed onto the vessel, either by dipping or wiping the vessel, can be used for decorative effect, producing a surface of contrasting colour to the body below, or using finer quality clay to help seal the pot and reduce porosity. Many of these treatments will obliterate marks left by previous forming techniques. The surface may not be deliberately finished at all, and in this instance you will see, for example, finger marks and coil folds which have not been smoothed. Finger marks can also survive from any stage of handling the pot during the manufacturing process, and occasionally it is possible to see the actual fingerprints surviving.

3.7.2 Firing

The firing process will be examined through several related avenues: colour, firing profile and cracking.

The colour of the final product has close ties to the firing process. Reds, yellows and oranges indicate an oxidising atmosphere, while browns and greys indicate a reducing atmosphere during firing. Purples and pinks can indicate overfiring.

Oxidation of a vessel occurs when there is ample oxygen flow into the firing, such as in an open bonfire, and generally results in vessels of an orange colour. Reduction is the result of a restricted oxygen flow during firing, which occurs in a closed kiln. It can also be achieved with an open bonfire which, once filled with pots and covered with fuel, is then sealed with a layer of earth or sand. This results in brown and grey vessels. Irregular firing can occur within either an oxidising or reducing atmosphere depending on small-scale variations in air flow within the fire. For example, gaps in the sealing of a closed firing can occur through the collapse of the fuel within the kiln. A reducing atmosphere can build up inside an open bonfire through the piling up of ash and fuel, or can be due to the way in which vessels are stacked inside the kiln; for instance, smaller pots may be stacked inside larger pots, pots may be stacked mouth down or mouth up, resulting in different firing conditions across a single vessel.

Wasters can be defined as "sherds and vessels showing evidence of damage during firing" (Rye 1981: 8). It is extremely difficult to identify wasters within a prehistoric hand-built pottery assemblage. Wasters which result from the collapse or explosion of a pot during firing can look identical to sherds from a vessel which was simply dropped and broken. Overfiring can indicate the presence of a waster vessel but not exclusively so, as a vessel which has been overfired can still be used if the damage is limited and affects only the surface of the pot; it can also be the result of other processes such as metalworking.

The recognition of wasters can help in identifying pottery manufacturing areas, as "wasters occur wherever pottery was made, irrespective of whether the site represents itinerant, home or workshop organisation. They may be discarded in 'waster dumps', especially if production is centralized, or they may be put to other uses...It is unlikely that wasters will have enough value to be transported far from their site of manufacture, even if they are used." (Rye 1981: 8). Some of the uses to which wasters can be put is as grog temper for new pots, or larger pieces can be utilised as dishes, lamps, spindle whorls etc.

3.8 Decorative motifs

The analysis of decoration has been broken down first into the method of its production, which at Beirgh can be one of five techniques: applied, incised, impressed, channelled, and other. Applied decoration indicates motifs where additional clay has been added and moulded onto the vessel, such as cordons and bosses. Impressed decoration indicates a negative stamp or impression made into the surface of the clay, with a variety of implements utilised. Incised decoration indicates a variety of pointed implements used to inscribe motifs into the vessel's surface, while channelled decoration indicates wide shallow grooves in the vessel's surface, either carried out with the fingers or a wide smooth implement such as a spatula.

These techniques are then broken down further into individual motifs, each of which is given a unique identification code. This code is made up of three parts, a prefix which signifies the technique (App. for applied, Inc. for incised, Imp. for impressed, Cha. for channelled, and Oth. for other), followed by a letter. This letter is used to denote groupings of similar motifs, for example those based on zigzags. The final Roman numeral indicates the specific motif within that grouping. This system allows any new motifs discovered to be incorporated into the scheme.

3.9 Layout of Chapters 4 and 5

Chapter 4 analyses the pottery by phase while Chapter 5 analyses the pottery by form. Each individual phase or each individual form is considered as if it were a distinct assemblage. The analysis in each chapter follows the same system. Each chapter is divided into sections, by phase or form as appropriate, and each descriptive section first gives some basic quantification such as the number of different forms present, the number of sherds, total weight of the assemblage, and the number of catalogue entries. The section goes on to describe the assemblage in question under four headings: *manufacture, decoration, surface deposits* and *deposition.*

Under *manufacture,* the assemblage is analysed in a number of ways. Firstly, fabric is tabulated as percentages by weight of each fabric category. Comments are made upon the most common single fabric type and on the relative quantities of vegetal impressions and/or temper in the assemblage, based upon sherd weights.

The surviving evidence of manufacturing technique is then addressed. Calculations are provided as percentages, based upon frequency counts. As a single sherd may exhibit more than one manufacturing technique, the percentages do not add up to 100. The types of cracking present are calculated separately, again as percentages based upon frequency counts, and again do not add up to 100 as individual sherds may exhibit more than one type.

Interior and exterior surface finish is presented as percentages based upon frequency counts and again do not add up to 100 as individual sherds may exhibit more than one type.

The firing type and firing profile of the vessels is expressed as percentages based upon sherd weights.

The distribution and mode of base and rim diameter and of sherd thickness are given, based upon frequency counts.

Decoration provides calculations of decorated and undecorated sherds in the assemblage, given as percentages and based upon sherd weights; base sherds are calculated separately from the remaining sherds. Of the decorated sherds, percentage calculations are then provided, based upon sherd weights, of the specific decorative technique present. Comments are then made upon the position of decorative techniques and motifs on the vessel body, including percentages where appropriate, calculated upon frequency counts. The number of motifs present is given as a count of each individual motif recorded.

Surface deposits provides percentages of surface deposits present, based upon sherd weight.

Under *deposition*, percentages are given for sherd condition based upon sherd weight. The average (mean) sherd weight for the assemblage is provided. The range and mode of sherd size is provided, based upon sherd counts.

The proportions of different vessel forms within each phase are expressed as percentages based upon sherd weights.

Applied Motifs

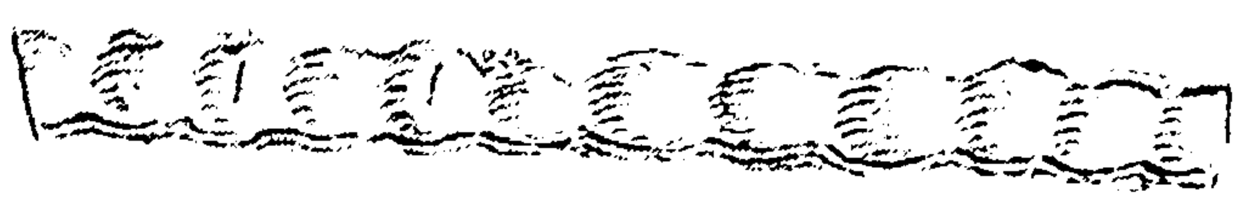
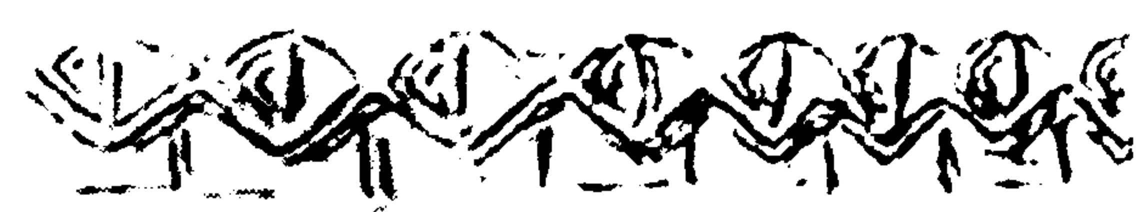
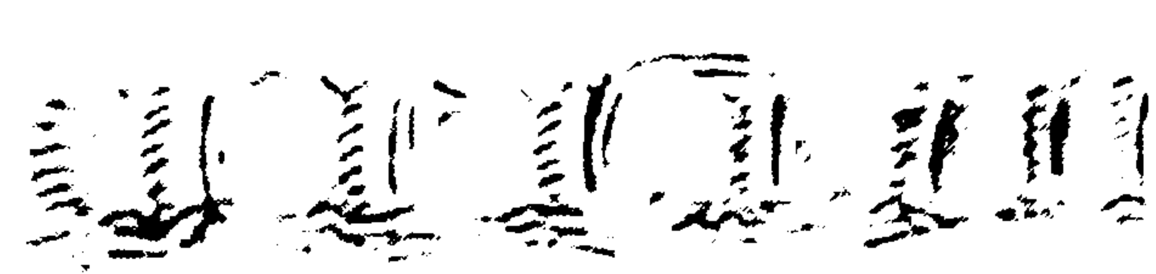
<table>
<tr><td colspan="4">Wavy Cordon
 </td></tr>
<tr>
<td>App.A) Single wavy cordon
i) plain
ii) fingernail marked
iii) narrow</td>
<td>App.A) Double wavy cordon
iv) plain
v) fingernail marked
vi) narrow</td>
<td>App.B) Single raised wavy cordon
i) plain
ii) fingernail marked
iii) narrow</td>
<td>App.B) Double raised wavy cordon
iv) plain
v) fingernail marked
vi) narrow</td>
</tr>
<tr><td colspan="4">Star-shaped cordon
 </td></tr>
<tr>
<td>App.C) Single star-shaped cordon
i) plain
ii) fingernail marked
iii) narrow</td>
<td>App.C) Double star-shaped cordon
iv) plain
v) fingernail marked
vi) narrow</td>
<td>App.D) Single raised star-shaped cordon
i) plain
ii) fingernail marked
iii) narrow</td>
<td>App.D) Double raised star-shaped cordon
iv) plain
v) fingernail marked
vi) narrow</td>
</tr>
<tr><td colspan="4">Other Cordons</td></tr>
<tr>
<td colspan="2">App.E) Impressed star-shaped cordon
i) single
ii) double</td>
<td colspan="2">App.F) Pinched cordon, single
</td>
</tr>
<tr>
<td colspan="2">App.G) Stabbed/impressed cordon, single</td>
<td colspan="2">App.H) Diagonally incised cordon, single
</td>
</tr>
</table>

Table 3-8: Applied motifs 1

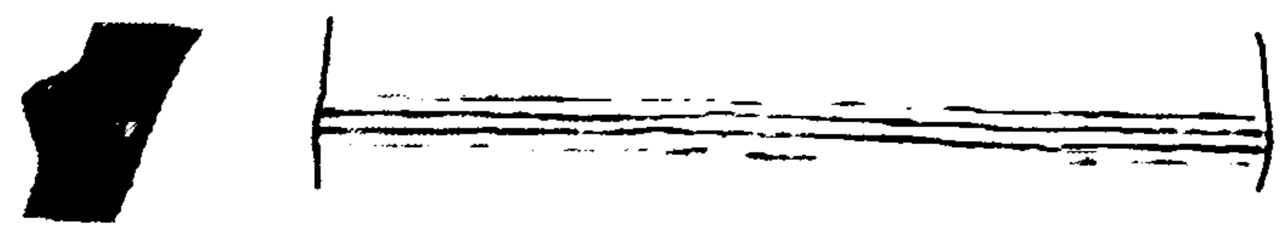
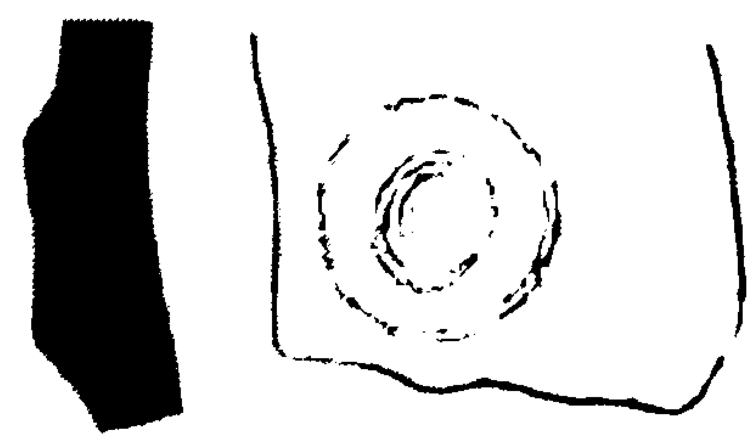
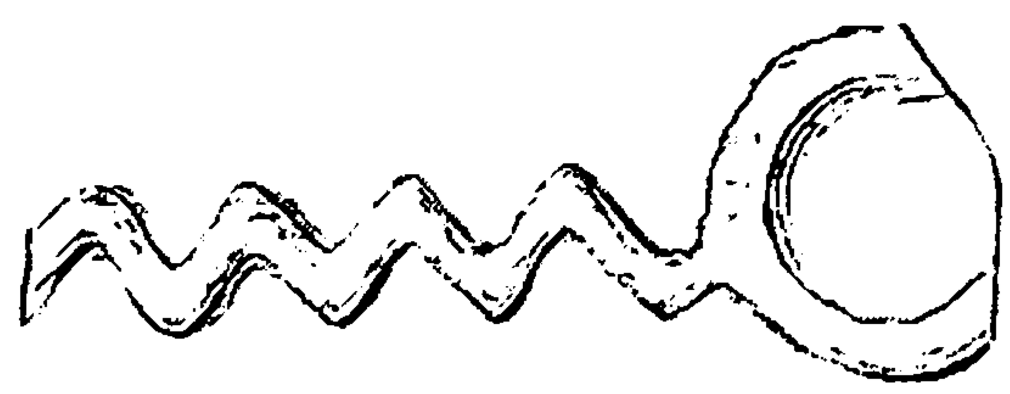
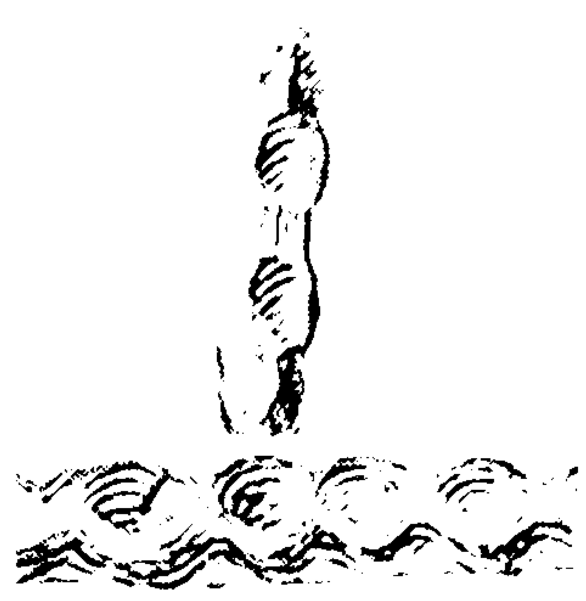
App.I) Plain cordon, rounded **i)** single **ii)** double	**App.J)** Plain cordon, v-sectioned **i)** single **ii)** double **iii)** triple 
App.K) Folded cordon **i)** wavy **ii)** plain **iii)** incised	**App.L)** Boss 
App.M) Attached curvilinear devices (curves, circles, horseshoes, tails) 	**App.N)** Curvilinear cordon, no visible attachment
App.O) Perpendicular/ diagonal, linear cordon attachment 	**App.P)** Cordon fragment

Table 3-9: Applied motifs 2

Channelled Motifs

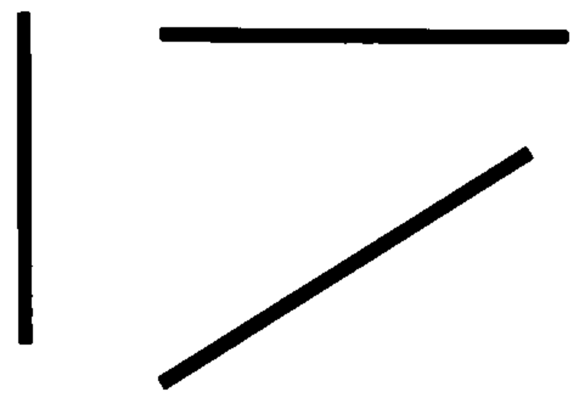
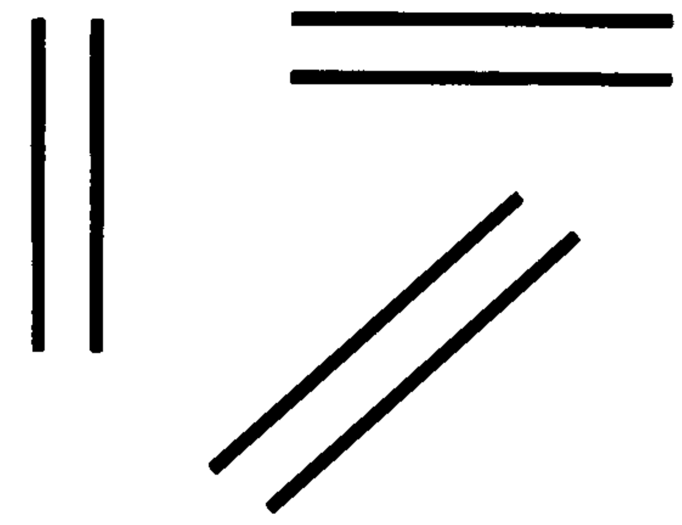
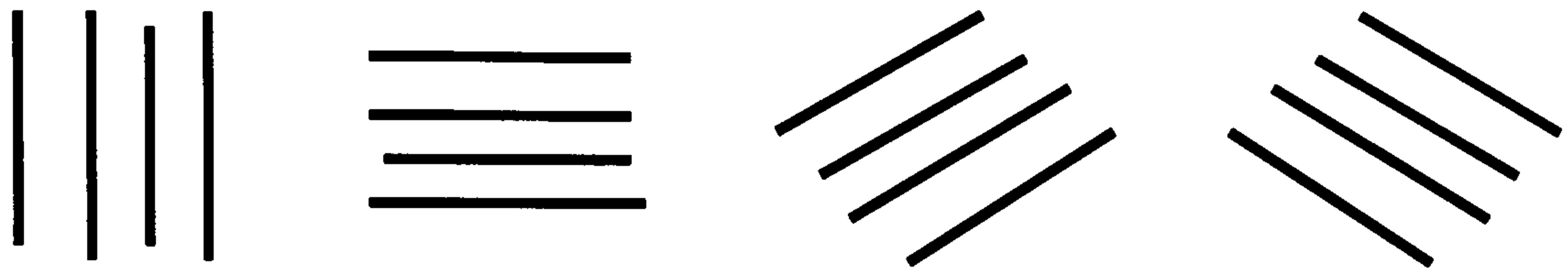
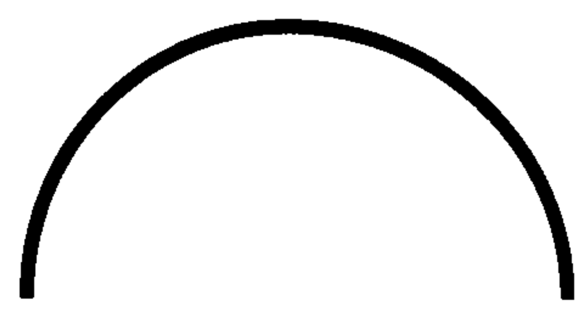
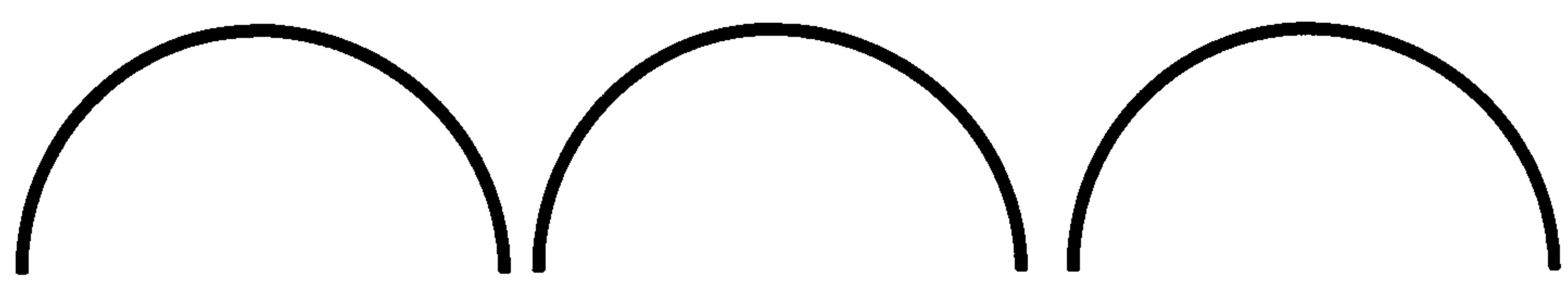
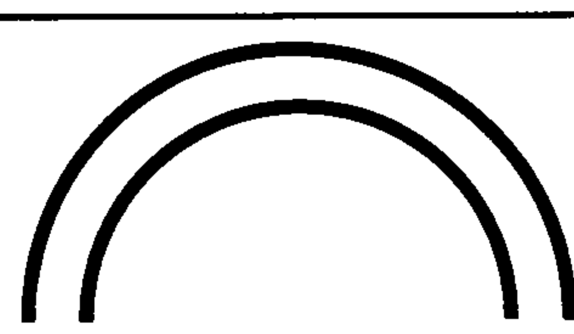
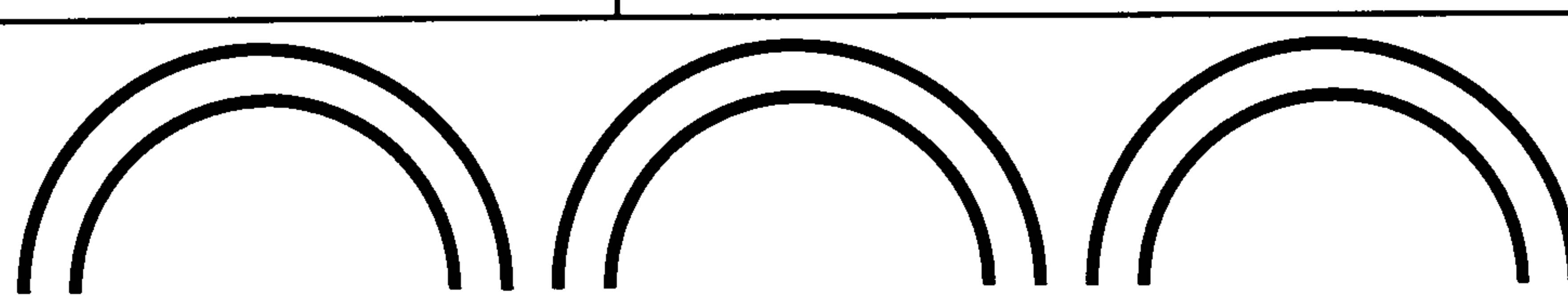
Cha.A) Single line **i)** vertical **ii)** horizontal **iii)** diagonal **iv)** direction unclear 	**Cha.B)** Double line **i)** vertical **ii)** horizontal **iii)** diagonal **iv)** direction unclear 
Cha.C) Parallel, multiple lines **i)** vertical **ii)** horizontal **iii)** diagonal **iv)** direction unclear 	
Cha.D i) Single arch 	
Cha.D.ii) Repetitive single arch 	
Cha.D.iii) Double arch 	
Cha.D.iv) Repetitive double arch 	

Table 3-10: Channelled motifs 1

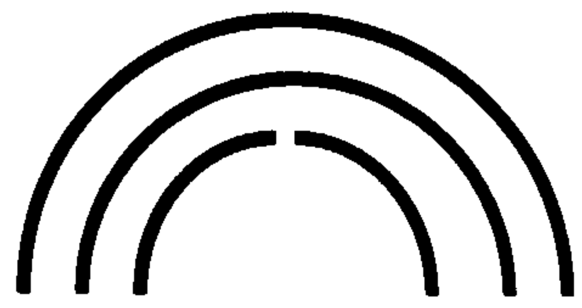
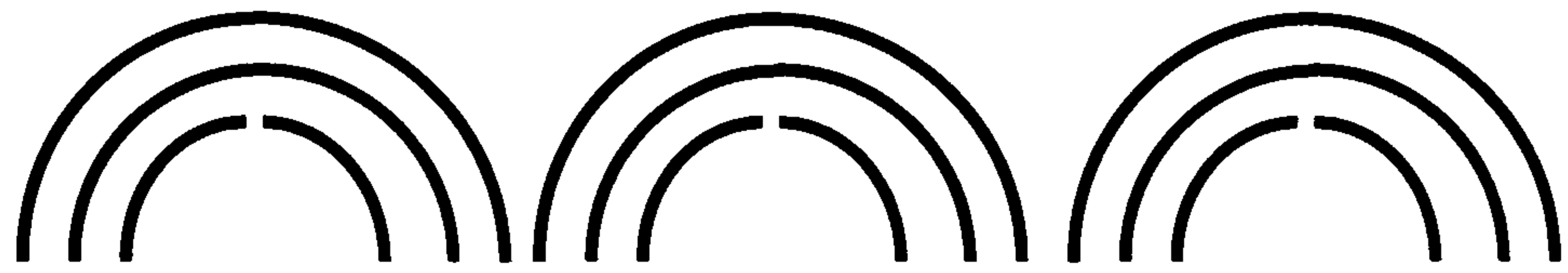
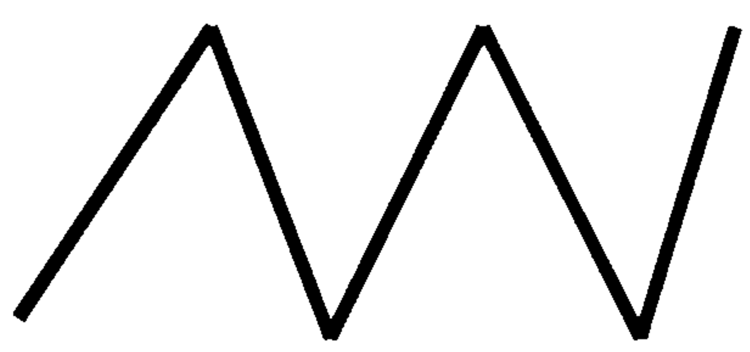
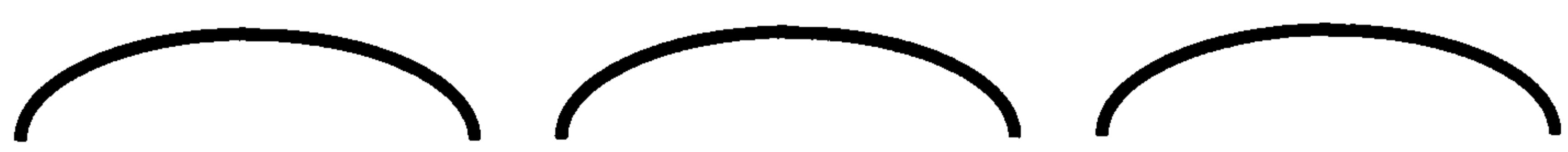
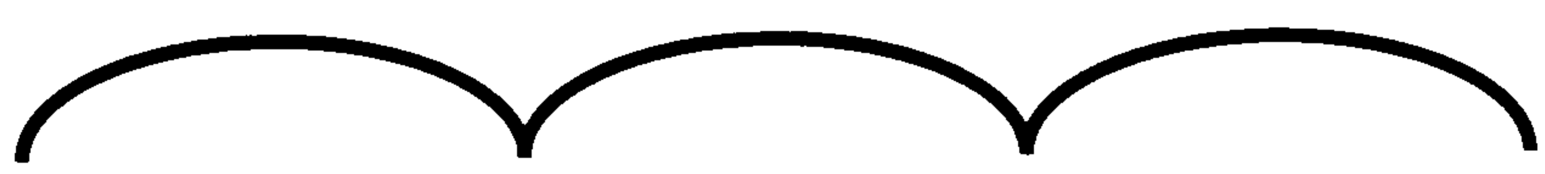
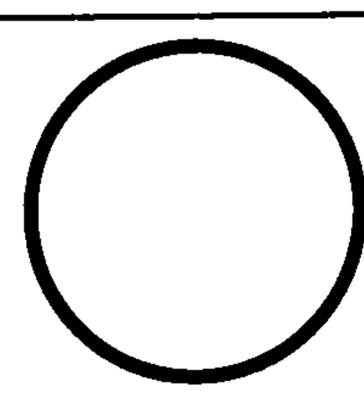
Cha.D.v) Multiple arch 	
Cha.D.vi) Repetitive multiple arch 	
Cha.E.i) Zigzag, single 	**Cha.E.ii)** Zigzag, double 
Cha.F.i) Curves 	
Cha.F.ii) Continuous curves 	
Cha.G) Circular groove 	**Cha.H)** Short parallel vertical 

Table 3-11: Channelled motifs 2

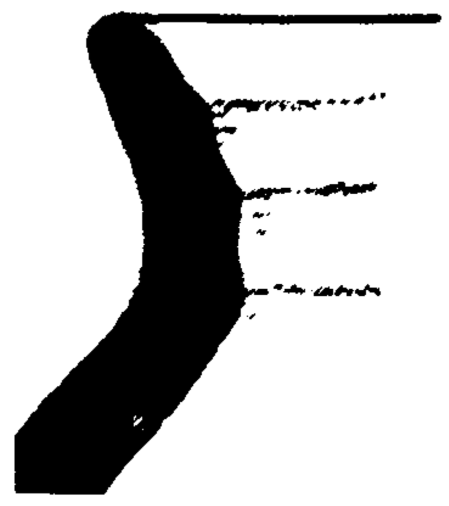
Cha.I) Fluting 	**Cha.J)** Neck groove
Cha.K) Shoulder groove	

Table 3-12: Channelled motifs 3

Impressed Motifs

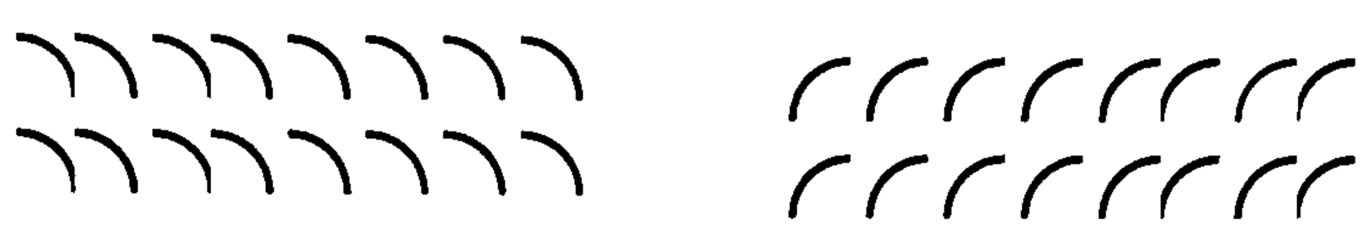
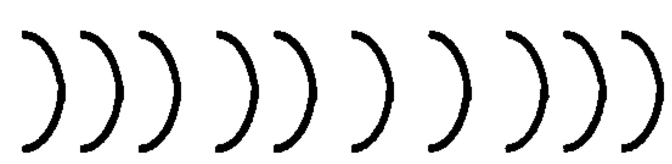
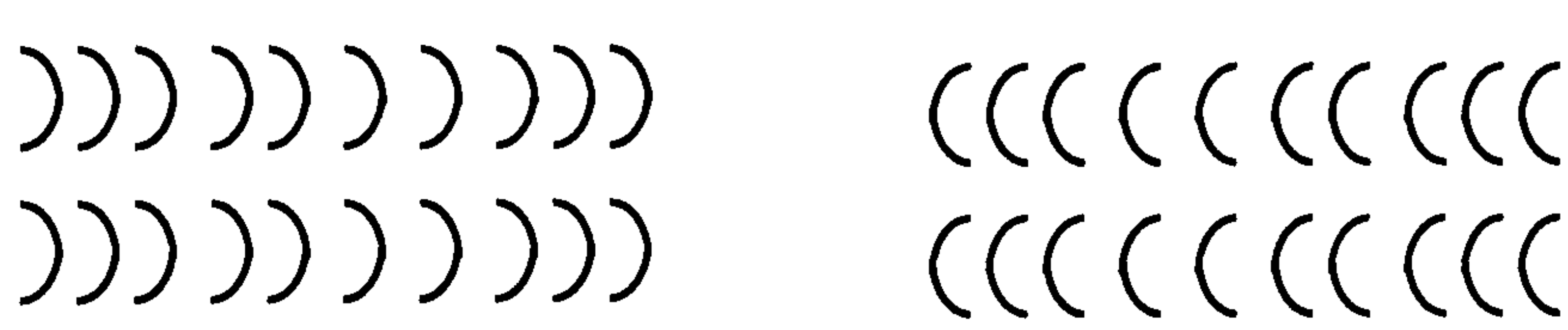
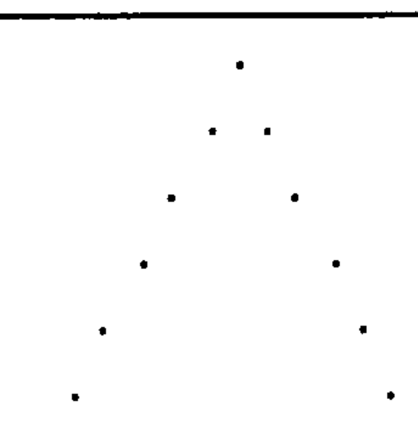
Imp.A.i) Fingernail row - diagonal, single 	
Imp.A.ii) Fingernail row - diagonal, double 	
Imp.A.iii) Fingernail row - horizontal, single 	**Imp.A.iv)** Fingernail row - horizontal, double 
Imp.A.v) Fingernail row - vertical, single 	
Imp.A.vi) Fingernail row - vertical, double 	
Imp.B.i) Dots - row 	**Imp.B.ii)** Dots - V-shape 

Table 3-13: Impressed motifs 1

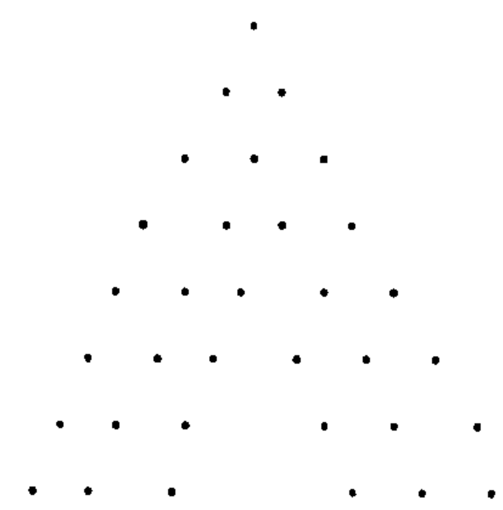
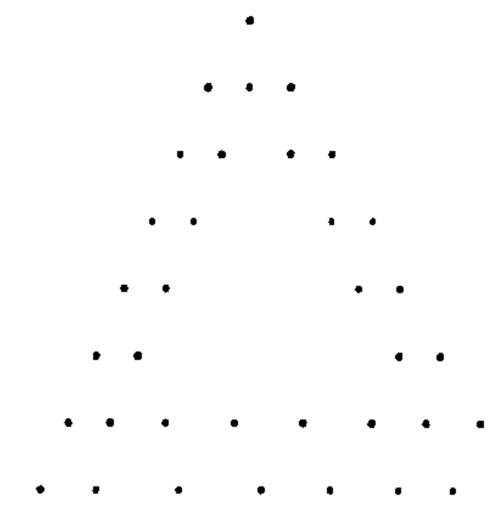
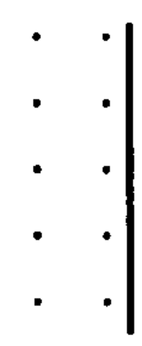
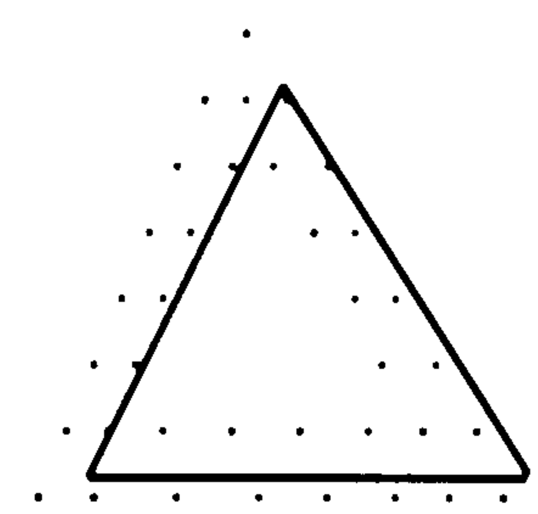
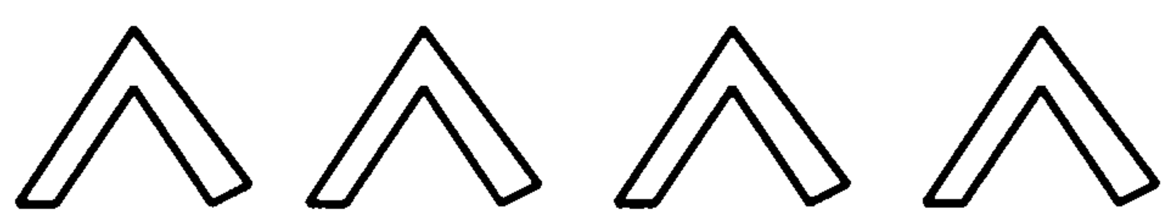
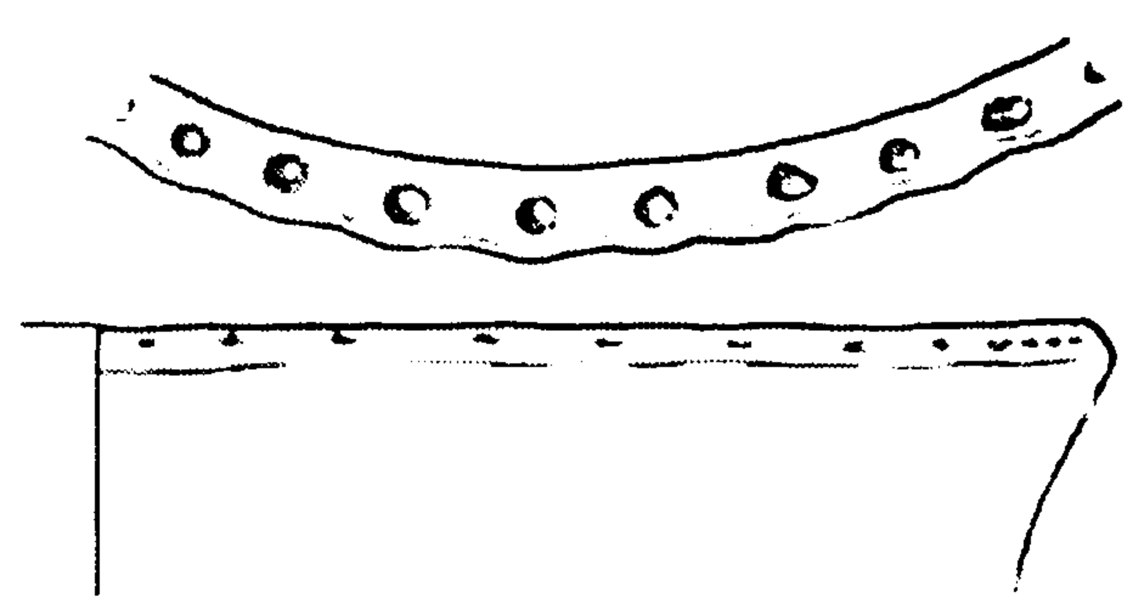
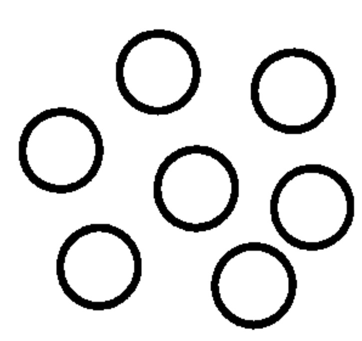
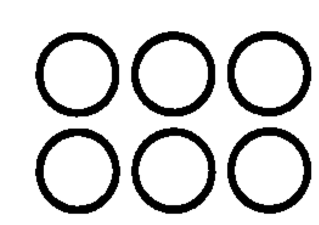
Imp.B.iii) Dots - multiple V 	**Imp.B.iv)** Dots - triangle, double 
Imp.C.i) Dots with line 	**Imp.C.ii)** Dots with line - triangle 
Imp.D) Semi-circles 	
Imp.E) Chevrons 	
Imp.F) Pits/dots along rim top 	
Imp.G.i) Fingertip dimples - clustered 	**Imp.G.ii)** Fingertip dimples - rectilinear 

Table 3-14: Impressed motifs 2

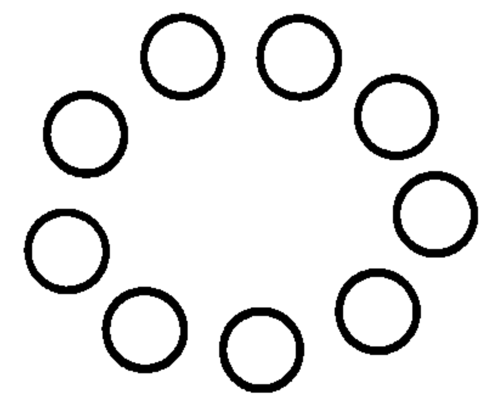
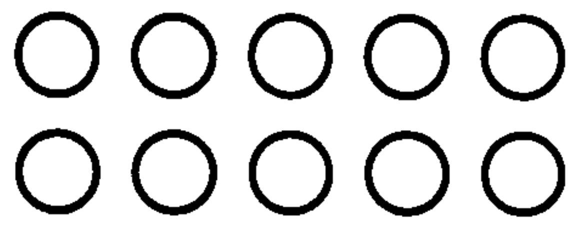
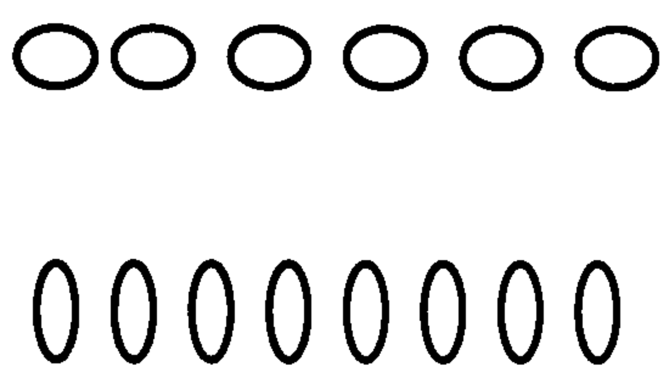
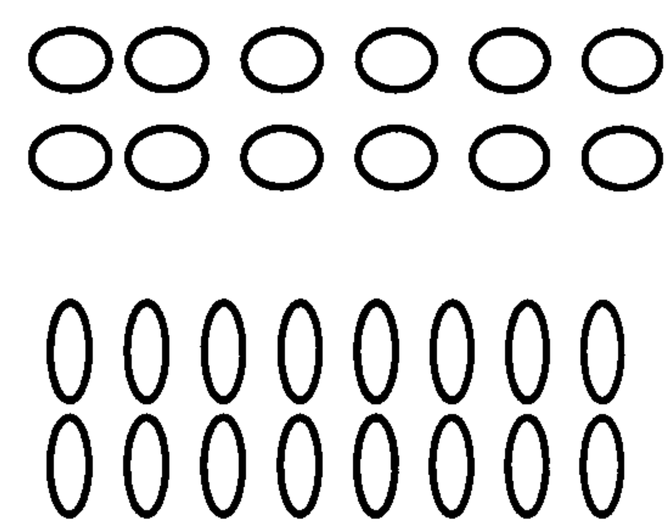
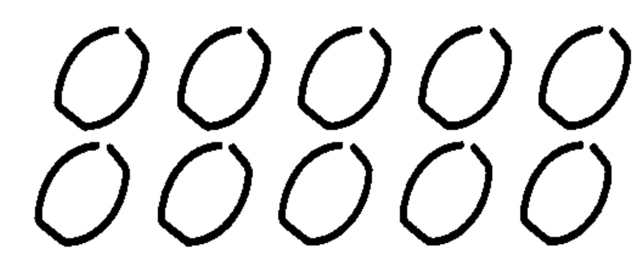
Imp.G.iii) Fingertip dimples - circle 	**Imp.G.iv)** Fingertip dimples - single row 
Imp.G.v) Fingertip dimples - double row 	**Imp.H.i)** Stab - single 
Imp.H.ii) Stabs, single row 	**Imp.H.iii)** Stabs, double row 
Imp.H. iv) Stabs, single row - diagonal 	**Imp.H.v)** Stabs, double row - diagonal 
Stab types — **C)** Circle/ symmetrical  **E)** Oval/elongated 	**I)** Irregular  **R)** Ring  **K)** Kidney-shaped  **O)** Other

Table 3-15: Impressed motifs 3

Incised Motifs

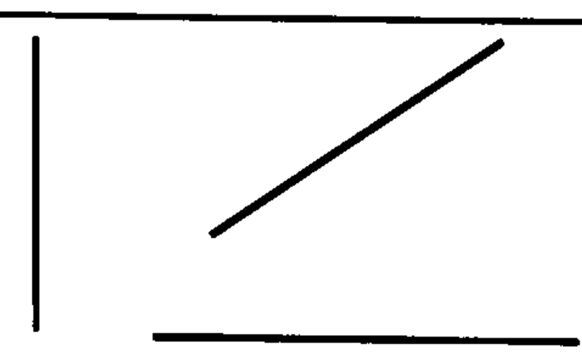
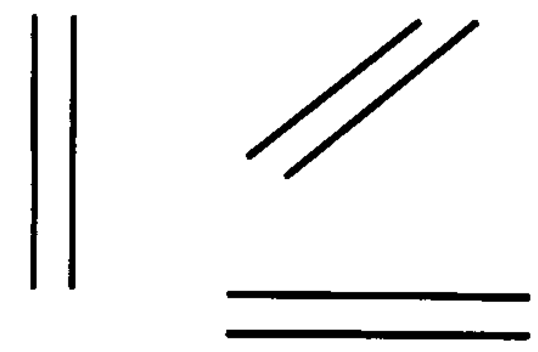
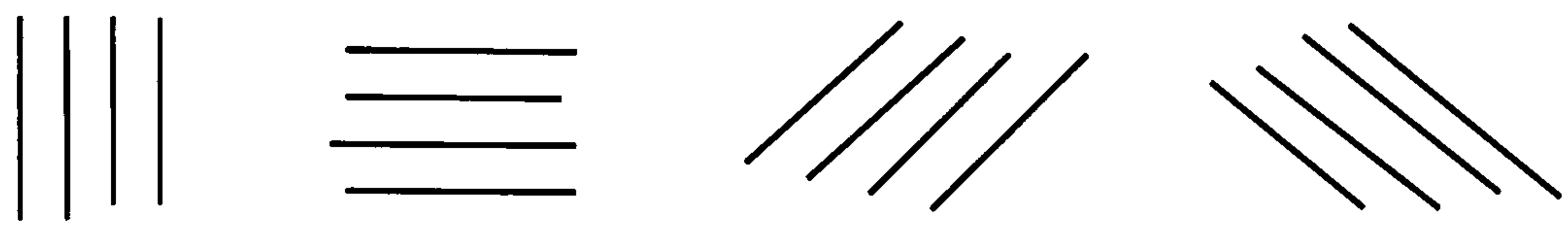
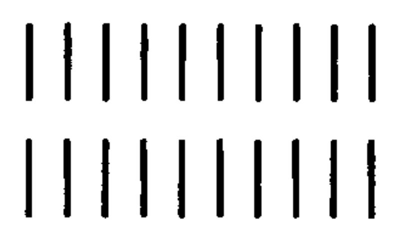
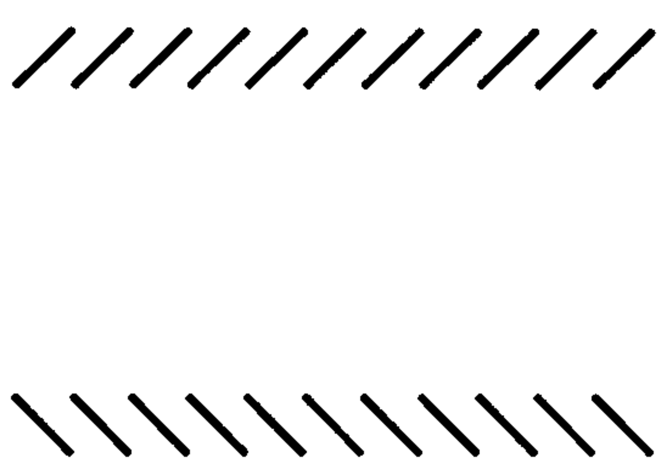
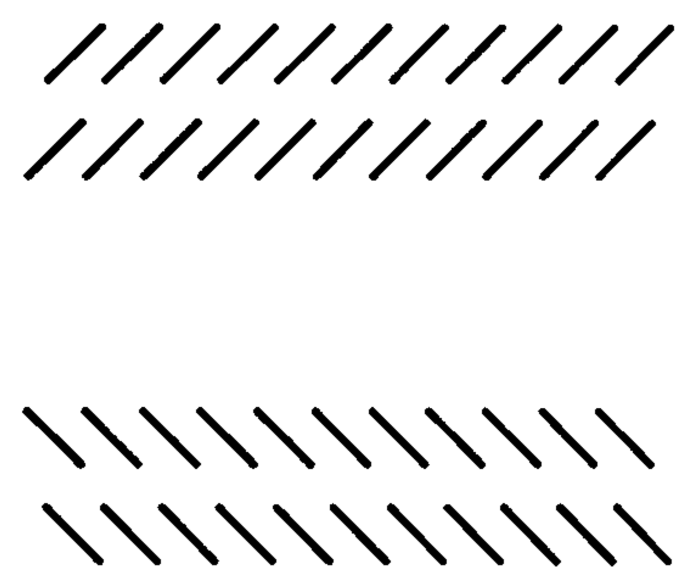
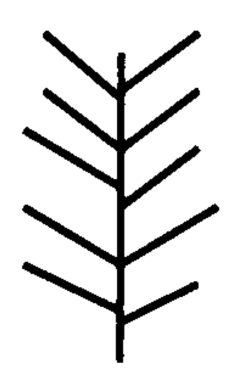
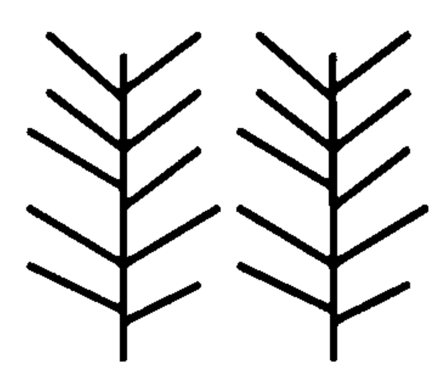
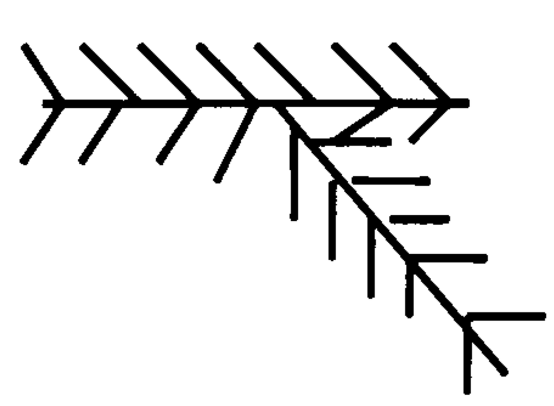
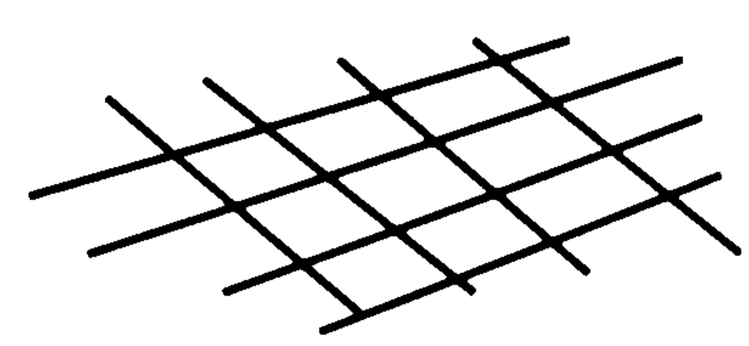
Inc.A) Single line **i)** horizontal **ii)** vertical **iii)** diagonal **iv)** direction unclear 	**Inc.B)** Double lines **i)** horizontal **ii)** vertical **iii)** diagonal **iv)** direction unclear 
Inc.C) Multiple parallel long lines **i)** horizontal **ii)** vertical **iii)** diagonal **iv)** direction unclear 	
Inc.D.i) Single row short lines, vertical 	**Inc.D.ii)** Double row short lines, vertical 
Inc.E.i) Single row short lines, diagonal 	**Inc.E.ii)** Double row short lines, diagonal 
Inc.F.i) Feather - single 	**Inc.F.ii)** Feather - multiple 
Inc.F.iii) Feather diagonals/complex 	**Inc.G)** Lattice 

Table 3-16: Incised motifs 1

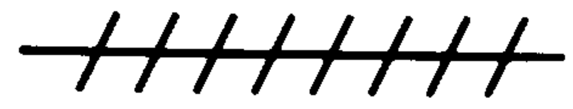
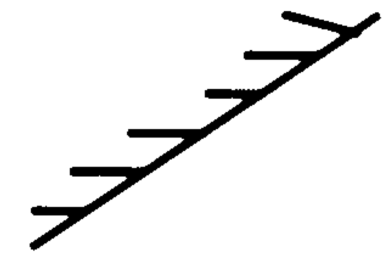
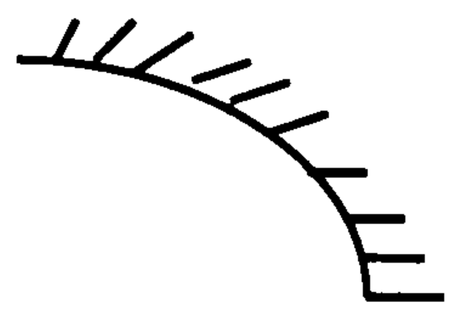
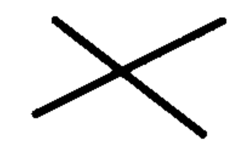
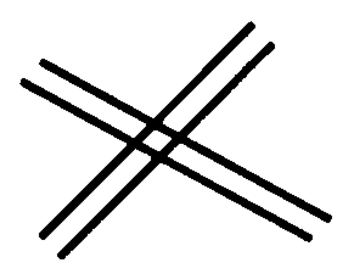
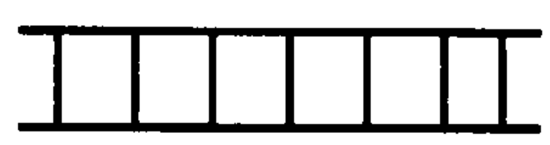
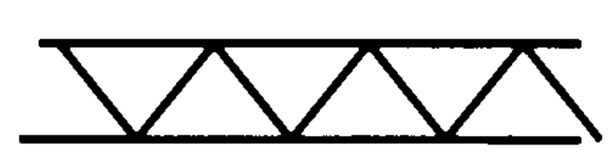
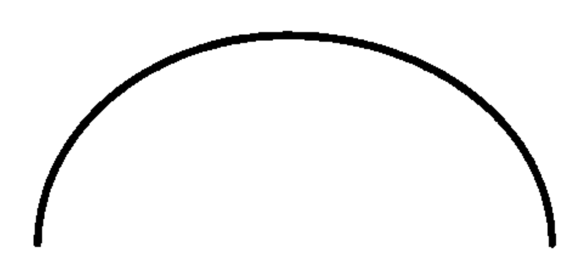
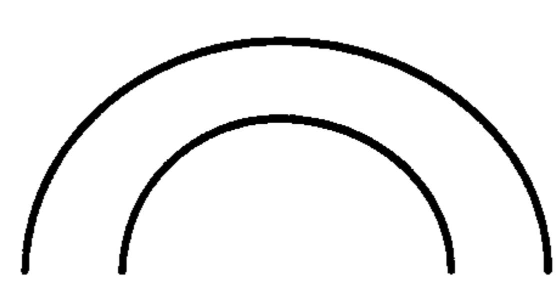
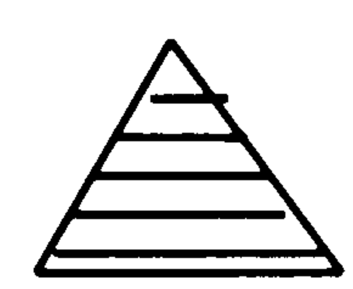
Inc.H) Slashed line 	**Inc.I.i)** Tasselled line - straight 
Inc.I.ii) Tasselled line - curvilinear 	**Inc.J.i)** Cross 
Inc.J.ii) Double cross 	**Inc.J.iii)** Row of crosses 
Inc.K.i) Straight-rung ladder 	**Inc.K.ii)** Diagonal-rung ladder 
Inc.K.iii) Zigzag-rung ladder 	**Inc.L.i)** Arch - single 
Inc.L.ii) Arch - double 	**Inc.M.i)** Infilled Triangle 

Table 3-17: Incised motifs 2

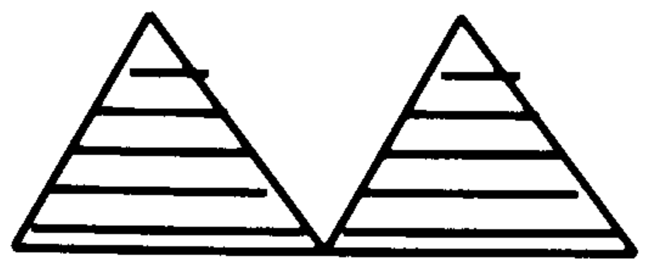
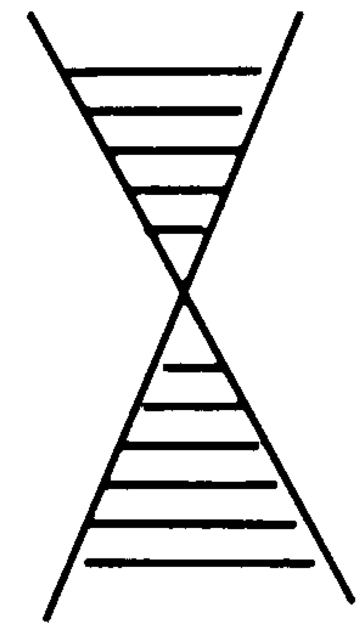
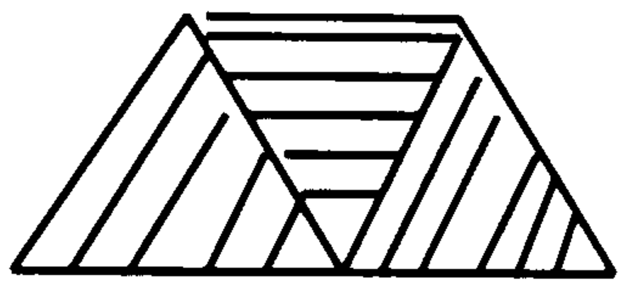
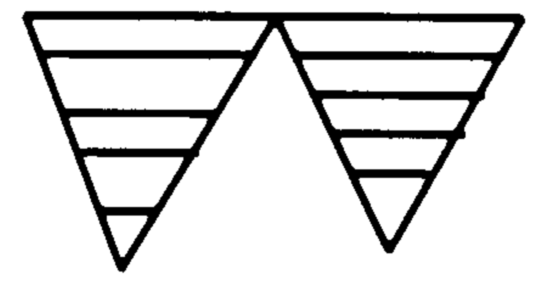
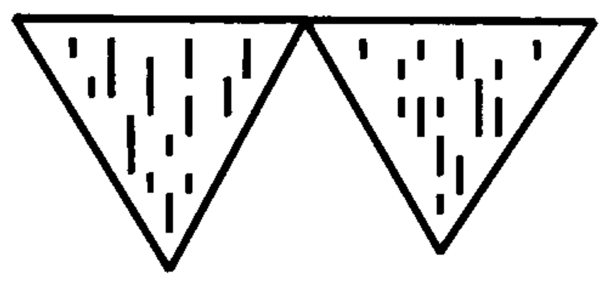
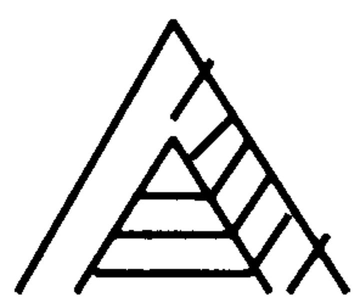
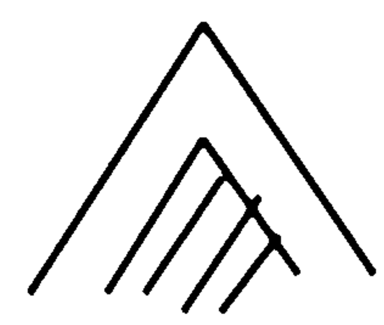
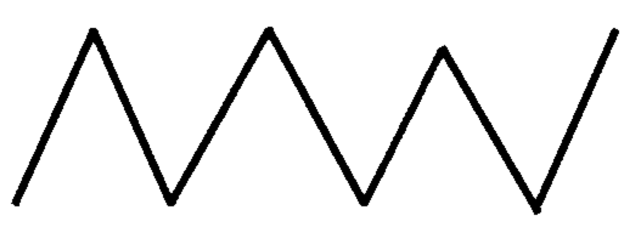
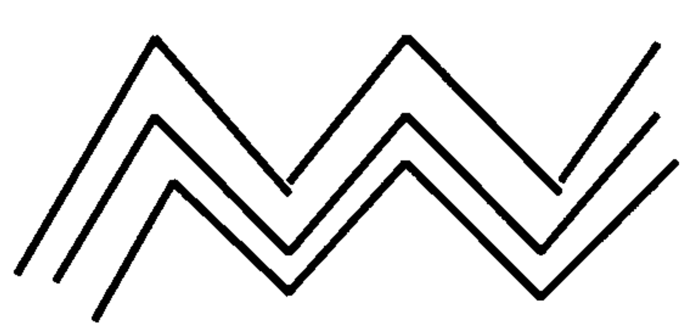
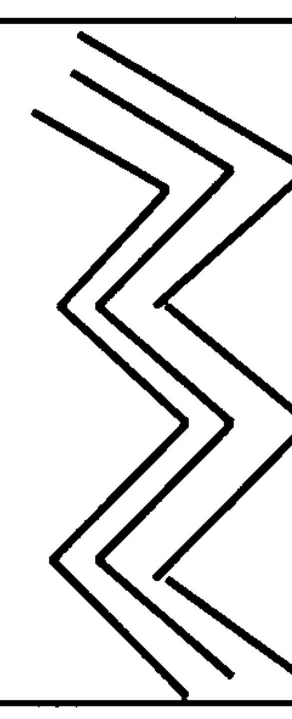
Inc.M.ii) Infilled triangles, linked 	**Inc.M.iii)** Linked infilled triangles/ diamonds 
Inc.M.iv) Continuous infilled triangles 	**Inc.M.v)** Pendant triangle - linked, infilled 
Inc.M.vi) Pendant triangle - linked, infilled 	**Inc.M.vii)** Multiple triangle 
Inc.M.viii) Multiple infilled triangle 	**Inc.M.ix)** Multiple infilled triangle 
Inc.N.i) Zigzag - single 	**Inc.N.ii)** Zigzag - double 
Inc.N.iii) Zigzag - multiple 	**Inc.N.iv)** Vertical zigzag 

Table 3-18: Incised motifs 3

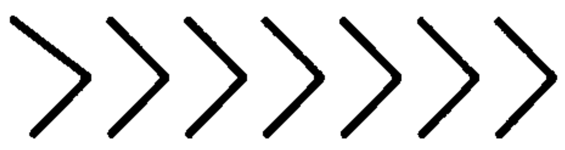
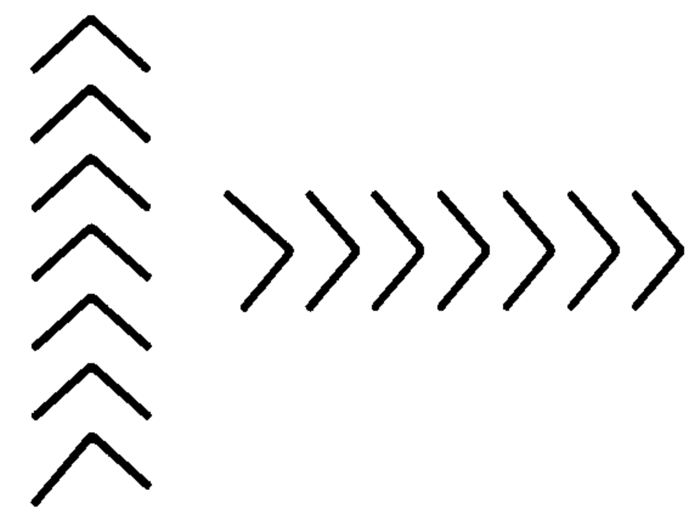
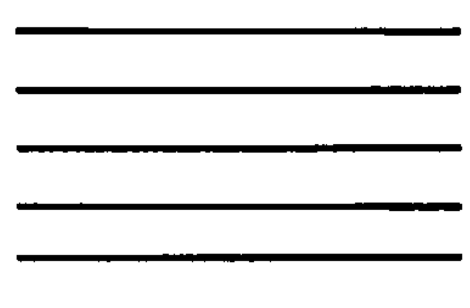
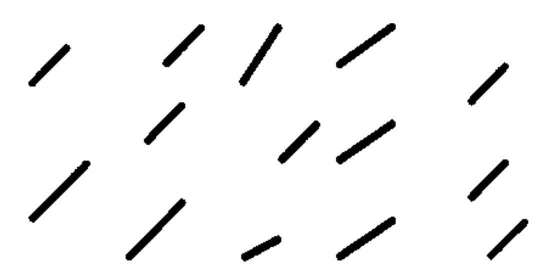
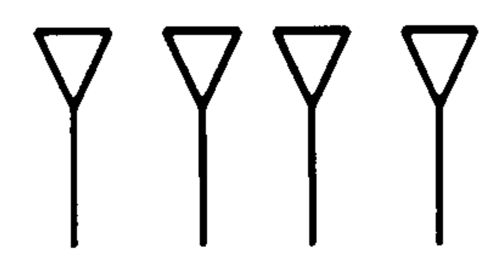
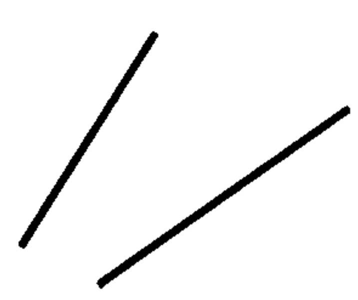
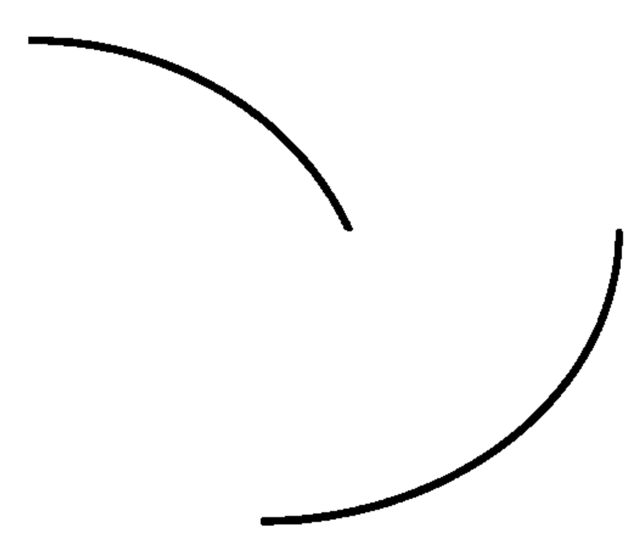
Inc.O.i) Chevrons, row 	**Inc.O.ii)** Stacked vertical chevrons 
Inc.O.iii) Stacked horizontal chevrons 	**Inc.O.iv)** Stacked chevrons, direction unclear 
Inc.P) Rilling (interior) 	**Inc.Q.i)** Random slashes, diagonal 
Inc.Q.ii) Random slashes, vertical 	**Inc.R)** Stab-and-drag 
Inc.S) Non-parallel lines 	**Inc.T)** Curvilinear line, direction unclear, not obviously an arch 

Table 3-19: Incised motifs 4

Other Motifs

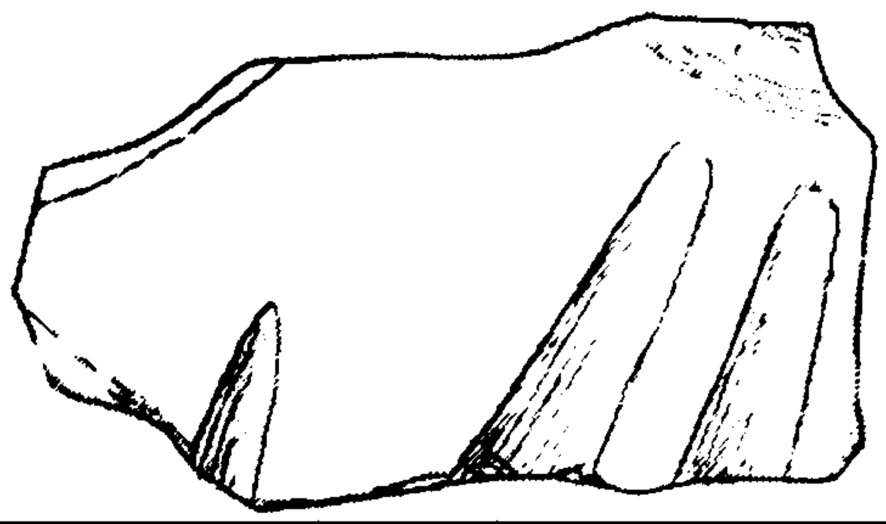
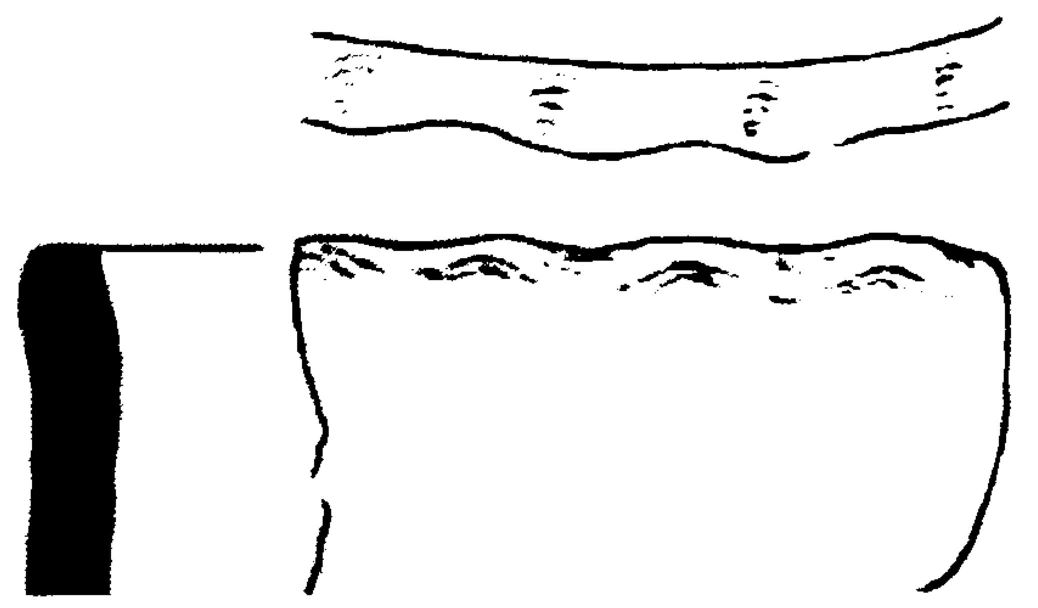
<table>
<tr>
<td>Oth.A) Gash
i) single
ii) multiple
</td>
<td>Oth.B) Moulded wavy rim
</td>
</tr>
<tr>
<td>Oth.C) Paint</td>
<td></td>
</tr>
</table>

Table 3-20: Other motifs

4. Characterisation by Phase

4.1 Introduction

In this chapter, the assemblage from each sub-phase will be described independently in turn. The sub-phases are considered as if they were self-contained assemblages. This allows each phase to be characterised, and makes it easier to handle such a large body of data. Firstly, information is provided on the number, weight and type of sherds present. The material is divided under four headings for analysis: manufacture, decoration, surface deposits and deposition. These descriptions of sub-phases will allow detailed comparisons to be made between each phase to chart changes through time. Changes in characteristics between phases will be identified and discussion will be made of patterns pertaining to each phase in Chapter 6.

Multiple-phase contexts are excluded from these sub-phase descriptions initially. After each block of sub-phases that constitutes a main phase, the remaining material from multiple-phase contexts will be described in the same way and considered as additional material.

A full catalogue can be found in Appendix 3.

4.2 Description of Sub-Phases

4.2.1 Phase 11

The assemblage is dominated by Forms 9, 24 and 29 (see Fig. 4-1). Smaller quantities of Forms 3, 7, 22 and 23 are present. The assemblage is small, and therefore it is necessary to be circumspect about any conclusions drawn. There are 57 sherds, weighing 1597g.

The majority of the assemblage comprises medium fabrics, with a slightly larger proportion without vegetal markings or temper. There are few coarse fabrics. The majority contain moderate inclusions and to a lesser extent have common inclusions; very few sherds have either sparse or abundant inclusions. Bases compared to rims, there is a tendency for base forms to be more heavily gritted and to be more often of coarse fabrics. Base sherds correspond to 19% of the assemblage by weight, which corresponds well with the 15% of coarse fabrics. The only other form to have any coarse fabrics present is Form 9, constituting a very small percentage by weight (6%) of that form.

Table 4-1: Fabric types, percentage by weight (total=1597g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	9		21	7	1		<1		38
Medium	<1		17	6	14	7		3	47
Coarse				13		1	1		15
Total	9		38	26	15	8	1	3	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Few manufacturing marks were visible, and most in fact consisted of coil remnants, in the form of unsmoothed coil bulges and folds visible on the interior surface. Where present, coil breaks indicated angled coil joins. Examples of laminar fracture confirm the presence of coil building. Many of these manufacturing marks related to the attaching of everted rims to the body of the vessel: neither Form 3 nor Form 7 exhibited any manufacturing techniques except coil building, in the form of laminar fracture and an angled coil join the sherd of Form 7. The under-representation of Forms 3 and 7 is to be expected due to the small numbers of sherds from these forms. Of the two bases which demonstrate manufacturing techniques, the base plate in each case was formed with a tongue to attach the wall to the base, and there was one each of angled and tongue-and-groove type joins, both in Form 24, so no patterns can be discerned there.

An example of finger drawing is seen on the interior of no. 2007. Wet-smoothing of surfaces is the most common finishing technique on both the interior and exterior of vessels. Finger marking is considerably more common on the interior of vessels, while fine wiping is more common on the exterior. There are two examples of external polishing (no. 2052 and 1119), both of which are Form 29. There appear to be few patterns across the forms with regard to surface finish.

Some cracking is present, notably fire-cracking and drying cracks. There appear to be few patterns across the forms with regard to cracking.

The majority (68% by weight) of the assemblage is oxidised, with unoxidised vessels comprising 30% of the total by weight, and irregularly fired vessels only 2%. The most popular firing profiles are 1, 2 and 13, with over 20% of the assemblage by weight each. Minor quantities, under 10% each, fall into types 3, 4, 5, 8, 9, 12 and 14.

Only three of the base sherds and seven of the rim sherds had measurable diameters, a sample which is too small to be able to extract any significance from. However, the range of base diameters is from 6cm to 13cm, while the range of rim diameters stretches from 9cm to 28cm. Only one rim sherd of Form 7 had a measurable diameter (16cm): the remainder were of Form 9. This is unsurprising as the assemblage is dominated by Form 9.

Sherd thickness is normally distributed, with some of the peaks at the larger end of the scale accounted for by base sherds, although the thickest sherd, at 14mm, is a body sherd (Form 29).

Decoration

Only 23% of the rim and body sherds are undecorated, with 50% by weight of the total having applied decoration. The second most popular decorative technique is applied and channelled decoration together, comprising 13% of the assemblage by weight, while 8% consists of channelled decoration on its own. Minor quantities of incised decoration are present (5%). Applied decoration is found on Forms 9, 29 and 22, channelled on 9 and 29, and incised on Forms 7, 9 and 29. The incised and channelled motifs are all different with no motif appearing more than once, so it is difficult to determine whether there are any patterns regarding the preferred form and position on the vessel. The sample of sherds with applied motif is likewise small and the vessel profiles present are not large, and so again it is difficult to be sure of any patterns present. However, sherd no. 2052 (Form 9) shows repetition of motif, with incised motif Inc.E.ii present on both the shoulder and in the neck angle, with the slashes following the same direction in each case. The only cordon present within a neck angle is of type App.A.ii. The majority of the applied, and other, decoration can be found on the body exterior, reflecting the fact that there 47% of the assemblage consists of body and shoulder sherds. Incised, channelled and applied motifs can also be found equally in the neck angle of everted rim forms, while applied and incised motifs have a slight preference for the shoulder and channelled motifs have a preference for lying between the shoulder and neck angle. All of the base sherds are plain and there is no decoration present on the body below the shoulder.

Surface Deposits

A high proportion of the sherds have charred residue adhering to their surface(s), 74%, opposed to 19% without any trace of residue, 5% with thin sooting, and 2% with other types of residue, which here include calcareous deposits and iron pan. Forms without any visible surface deposits comprise Forms 3, 22 and 23, but each of these types are represented by only one sherd each and are therefore unlikely to be representative. The majority of sherds belonging to Forms 9, 24 and 29 have surface deposits present.

Deposition

By weight, 28% of the assemblage is of average condition, 58% is abraded, and 14% is very abraded.

The sherds are normally distributed in size with the majority between 40mm to 70mm across; however, there is a suggestion that this distribution is bi-modal, with a second peak centred around 100mm.

The average sherd weight for this phase is 28g, a considerable size suggesting a lower level of post-depositional disturbance or fragmentation prior to deposition. Several larger portions of vessels are present in this phase (no's 2007, 2069), which can be seen on the distribution charts of weight and sherd size, and possibly account for the peaks showing larger size and pull up the average sherd weight.

4.2.2 Phase 10

The assemblage is dominated by Forms 9, 24 and 29 (see Fig. 4-2), with moderate quantities of Forms 1, 2 and 16. Smaller quantities of Forms 3, 4, 7, 8, 10, 13, 15 and 23 are present. The assemblage is small, and therefore it is necessary to be circumspect about any conclusions drawn. The phase includes a number of contexts from the galleries. There are 251 sherds weighing 5570g.

Manufacture

The most common fabrics are medium fabrics with moderate inclusions, and fine fabrics with sparse inclusions and vegetal impressions and/or temper; coarse fabrics are the least common by a considerable percentage. Just over half (56% by weight) of all the fabric types present have vegetal impressions and/or temper visible, although the proportions are fairly evenly balanced except within fine fabrics with sparse inclusions, which have a much greater likelihood of also containing vegetal impressions and/or temper.

Table 4-2: Fabric types, percentage by weight (total=5570g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	4	15	4	9	2		2		36
Medium	1	1	14	9	7	8	5	7	52
Coarse		1	1	1	2	2	2	3	12
Total	5	17	19	19	11	10	9	10	100

N = no vegetal markings or temper   V = vegetal temper and/or markings

The assemblage is coil built, with characteristic signs such as coil folds and coil bulges commonly visible on interior surfaces, and sherd breaks along coils; the most common of these break types is from an angled coil join, with tongue-and-groove coil breaks much less common. Vessels often have the rim section attached as a separate piece, especially Form 9. Folded rims are commonly seen on Form 1 rims. Base plates tend to be joined to the walls of the vessel with an angled join rather than a tongue-and-groove join. Laminar fractures also suggest coil building.

The most common exterior surface finishes are smoothing and fine wiping, while the most common interior surface finishes are smoothing and finger marking. Drying cracks are relatively common on neck interiors, and some star cracking is present.

Overall, 66% of the sherds by weight in this phase have been subjected to an oxidising firing atmosphere, with 33% unoxidised. Less than 1% are irregularly or otherwise fired. The most common firing profile is type 1, with 54% of the sherds by weight. This is a typical firing profile of oxidised vessels fired for long enough to remove any carbonaceous matter contained within the fabric. Firing profile 8 is the next most common, with 15% of the sherds by weight; this profile is typical of unoxidised sherds. Types 2 and 13 account for 10% each, with types 3, 4, 5, 9, 12 and 14 all playing a minor role. There is some fire cracking present, and only one example of spalling.

All of the base sherds in Phase 10 have a diameter range of 6 to 11cm, with the most common size being 10cm. The rim forms range in size from 10 to 34cm, with the most common diameter being 18cm. It would appear that rim Forms 1 and 2 are generally larger in diameter than any other rim form, Forms 15 and 16 have a more restricted size range at the upper end of the scale, and Form 9 includes the smallest rim diameter measured and has a wide spread of diameters. Sherd thickness is normally distributed and is centred around 7mm, with an overall range of 3 to 12mm.

Decoration

No base forms exhibit any decoration. 48% of the rim and body sherds in this phase do not have any decoration visible. The most common decorative technique is impressed decoration with 30% by weight., followed by applied motifs with 13% by weight. Minor quantities of other techniques are present; channelled with 3%, incised 2%, applied and channelled 2%, channelled and incised 1%, impressed and incised 1%, and other techniques 1%. All techniques are found on the body or shoulder. However, only channelling is ever found on the rim interior, only incision on the body interior, and other techniques on the rim top. Applied motifs are not found on the rim exterior unlike all other techniques, but is the only technique found in the neck angle; just under a third of applied motifs are found in the neck angle, otherwise it is found on the body or shoulder. Impressed motifs are most commonly found on the rim exterior, incised most commonly on the shoulder or body exterior, and channelled most often on the shoulder or body, followed by the rim interior.

Surface Deposits

Overall, 41% by weight of the sherds exhibit slight sooting on their surfaces, while 29% have charred residue visible, and 30% have no surface deposits present. Less than 1% have any other types of residue present.

Deposition

The sherds are generally abraded, with 72% by weight. Only 13% are of average condition, and 15% very abraded. Sherd size has a skewed normal distribution ranging from 20 to 140mm, centred around 40mm.

4.2.3 Roundhouse Multiple-Phase contexts

The background provided by the multiple-phase contexts affirms the sub-phase specifics discussed above. The assemblage is dominated by Form 9 (see Fig. 4-3).

Smaller quantities of Forms 1, 7, 8, 10, 12, 15, 16 and 17 are present. There are 239 sherds weighing 4845g.

Manufacture

A variety of fabric types are present; however, there are no coarse fabrics with sparse inclusions and no fine fabrics with abundant inclusions. Medium fabrics are more common than other types and the single most common fabric is medium with common inclusions and no vegetal impressions and/or temper visible. Fabrics without vegetal impressions and/or temper are more common than those with them, by 65% against 35% overall.

Table 4-3: Fabric types, percentage by weight (total=4845g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	5	2	13	1	4	<1			25
Medium	3	1	10	9	12	10	4	2	51
Coarse			3	1	7	3	4	6	24
Total	8	3	26	11	23	13	8	8	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Overall, 75% of the vessels show no surviving evidence of manufacturing techniques. Coil bulges are present on the interior of 1% of the vessels while coil folds are present on the interior of 11% of the vessels. Angled coil breaks (5%) are slightly more common than tongue-and-groove coil breaks (3%). Ten percent of the rims have been fashioned as separate sections, while 1% of the rims have been formed by folding. Bases where the walls have been attached by an angled join (1%) are less common than those attached with a tongue-and-groove join (3%). Two percent of the vessels exhibit laminar fracture. Overall, 80% of the vessels have no evidence for cracking.

The exterior surfaces have been finished primarily by smoothing (64%) with fine wiping (29%), and smaller amounts of roughening (6%), finger marking (4%), rough wiping (4%), polishing (1%) and very coarse wiping (1%). Eight percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (49%) and finger marking (25%), with smaller amounts of fine wiping (8%), roughening (4%), rough wiping (2%) and polishing (1%). Ten percent of the vessels have no visible interior surface finish. Six percent of the vessels have drying cracks and 1% have star cracking.

By weight overall, 59% of the sherds have been subjected to an oxidising firing atmosphere, 40% are unoxidised and less than 1% each are irregularly fired and over fired. The most common firing profile is type 1 with 30%, type 3 with 15%, type 8 with 13%, type 2 and 13 with 11%, type 14 with 10%, type 12 with 4%, type 4 with 3%, and types 5, 9 and 10 with 1%. Thirteen percent of the vessels exhibit fire cracking and just 1% have a network of fine cracks.

Sherd thickness ranges from 3mm to 15mm and is normally distributed. The mode is 6mm. Base diameter ranges from 5cm to 12cm across all types and is normally distributed. The mode is 9cm. Rim diameter ranges from 10cm to 27cm across all types and is normally distributed. The mode is both 14cm and 16cm. The diameter measured at 27cm is an outlier.

Decoration

By weight, the base forms only have 97% of the sherds undecorated and 3% (one sherd) have channelled decoration. This motif is found on the base interior. The rim and body forms have 38% undecorated, 49% have applied decoration, 8% have channelled decoration, 2% have applied and channelled decoration, 2% have impressed decoration, 1% have incised decoration, 1% have impressed and incised decoration together, 1% have channelled and impressed decoration together, and 1% have other types of decoration. The positions of the motifs are presented in the table below.

Table 4-4: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other	1										
Incised	2					1	1				
Impressed	3		2				2				
Channelled	1			4			4	3			1
Applied	42					19	7				

Surface Deposits

By weight overall, 37% of the sherds have no visible surface deposits, 47% have charred residue, 15% have slight sooting and 1% have other types of deposit.

Deposition

By weight overall, 23% of the sherds are of average condition, 47% are abraded and 30% are very abraded. Maximum sherd dimension ranges from 20mm to 140mm and is normally distributed. The mode is 40mm.

4.2.4 Phase 9

The assemblage is dominated by Form 9 (see Fig. 4-4). Smaller quantities of Forms 1, 7, 8, 10, 12, 15, 16 and 17 are present. There are 320 sherds weighing 8219g.

Manufacture

A wide variety of fabric types are present, with medium fabrics being most common and coarse fabrics the least. The single most common fabric type is medium with moderate inclusions and no vegetal impressions and/or temper. Fabrics without vegetal impressions and/or temper are more common than those with them, comprising 74% against 26% overall.

Table 4-5: Fabric types, percentage by weight (total=8219g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	8	3	5	3	2	3	<1		24
Medium	4	2	14	6	19	5	3	1	54
Coarse	<1		5	<1	6	2	8	1	22
Total	12	5	24	9	27	10	11	2	100

N = no vegetal markings or temper V = vegetal temper and/or markings

The most common evidence of manufacturing technique is of coil construction, represented by angled coil breaks, followed by coil folds and separate rims. The high incidence of separate rim joins present is a consequence of the high number of everted rims present in the assemblage. Tongue-and-groove coil joins are infrequent, occurring ten times less often than angled coil breaks. Folded rims are also infrequent, as this technique is peculiar to Forms 1 and 2. Bases with angled wall joins are four times more common than bases with tongue-and-groove wall joins. Frequent examples of laminar fracture also testify to the prevalence of coil building. Very few examples of drying cracks or of star cracks are present.

Almost half of all finishing techniques present on the exterior surfaces is smoothing, followed by fine wiping with 29% of all types. Small amounts of polishing and burnishing, finger marking, rough and very coarse wiping and roughening are also present. Again, on the interior surfaces, almost half of all finishing techniques noted is smoothing, followed by finger marking with 29%. Small amounts of fine, rough and very coarse wiping, paddle-and-anvil, scraping and roughening are also present.

Overall, the majority of the sherds by weight, 56%, have been subjected to an oxidising atmosphere, with 42% unoxidised and 2% irregularly fired. The most common firing profile is type 13 with 23% by weight, closely followed by type 1 with 21%. Type 8 comprises 15% by weight, type 2 has 13% and type 3 has 12%. Small amounts of types 4, 5, 6, 10, 12 and 14 are also present. Fire cracking is relatively common, and only one example of dunting is present.

Base diameter overall ranges from 6 to 14cm, is normally distributed, and the mode is 9cm. Rim diameter overall ranges from 10 to 28cm, and the modes are 20 and

21cm. There are possibly two peaks in the distribution, one centred around 20/21cm and one centred around 11cm. Sherd thickness ranges from 4mm to over 15mm, with a normal distribution. The mode is 8mm.

Decoration

By weight, 98% of the base sherds are undecorated, with just 2% decorated with impressed motifs. This translates to one vessel, no. 2112, with motif Imp.G.ii on the base interior. Of the remaining sherds, 43% by weight are undecorated. 42% of the sherds by weight have applied decoration, 4% have channelled decoration, 1% has impressed decoration, 3% has incised decoration, 1% has applied and channelled decoration, 1% has impressed and incised decoration, and 5% of the sherds have another type of decoration.

Applied decoration is found primarily on the body exterior, with 14% of all applied motifs placed in the neck angle and 10% found on the shoulder. Half of all the channelled motifs are found on the shoulder, a quarter on the body exterior, and the remainder divided evenly between the rim exterior and interior. The impressed decoration is found only on the rim exterior. Incised motifs are found in a variety of positions; a quarter each on the body exterior, rim exterior and shoulder, with the remainder divided between the body interior and the neck angle.

Surface Deposits

Overall, by weight 37% of the sherds have no visible surface deposits, 44% have charred residue, 16% have slight sooting and 3% have other types of deposit.

Deposition

Overall, by weight 31% of the sherds are of average condition, 57% are abraded, and 12% are very abraded. Maximum sherd size overall ranges from 20 to over 150mm. The mode is 40mm. The range is normally distributed. Average sherd weight overall is 26g.

4.2.5 Phase 8

This phase (Fig. 4-5) is dominated by everted rims (Form 9), with small quantities of Forms 1, 8, 12, 16 and 17. Flat bases (Form 24) are prevalent. There are 136 sherds weighing 4162g.

Manufacture

Although a range of fabric types are present, there are no fine fabrics with either common or abundant inclusions. Medium fabrics are the most common overall, with coarse fabrics more common than fine fabrics. The single most common fabric is medium with moderate inclusions and no vegetal impressions and/or temper present. Fabrics without vegetal impressions and/or temper are more common than those with them, by 75% to 25% overall.

Table 4-6: Fabric types, percentage by weight (total=4162g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	2	1	13						16
Medium	8	1	19	11	9	7	1	2	58
Coarse	1		6	1	9	2	7		26
Total	11	2	38	12	18	9	8	2	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Sixty-three percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels have been coil built as evidenced by the presence of coil folds (14%) and coil bulges (8%) surviving on the vessel interior surfaces. The most common type of coil break present is an angled coil break (14%), with only one example (1%) of tongue-and-groove coil breaks. Eleven percent of the rims are constructed as separate sections. Bases are equally constructed with angled wall joins (4%) and with tongue-and-groove wall joins (4%). Examples of laminar fracture (2%) also suggest coil building.

The exterior surfaces are finished primarily by smoothing (69%) and fine wiping (39%). Small amounts of burnishing (1%), polishing (5%), rough wiping (4%), very coarse wiping (1%), finger marking (9%) and roughening (4%) are present. Seven percent of the vessels have no visible exterior surface finish. The interior surfaces are finished primarily by smoothing (57%) and finger marking (32%). Small amounts of fine wiping (11%), rough wiping (1%), paddle-and-anvil (1%) and roughening (5%) are also present. Nine percent of the vessels have no visible interior surface finish. Drying cracks are present on 15% on the vessels, and there are just two (2%) examples of star cracking. Sixty-two percent of the vessels exhibit no cracking.

Overall by weight, 54% of the sherds have been subjected to an oxidising atmosphere, with 45% unoxidised and 1% irregularly fired. There is a range of firing profiles present, with the most common being type 1 with 25% by weight. This is followed by type 8 with 19%, types 3 and 13 with 17% each, types 4 and 14 with 6% each, type 2 with 5%, and type 5, 6, 10, 11 and 12 with 1% each. Fire cracking is present on 18% of the vessels, as are several examples of networks of fine cracks (4%).

Base diameter ranges from 8cm to 11cm across all forms and is normally distributed. The mode is both 8cm and 9cm. Rim diameter ranges from 12cm to 25cm across all forms and is normally distributed. The mode is equally 12cm, 18cm, 20cm and 25cm. Overall sherd thickness ranges from 4 to 15mm and is normally distributed. The mode is 7mm.

Decoration

Excluding bases, 38% of the sherds are undecorated by weight overall, while 55% of the sherds exhibit applied decoration, channelled, applied and channelled together, and other techniques have 2% each, while incised and impressed constitute 1% each. Of the base sherds, 99% by weight overall are undecorated while 1% has impressed decoration, found on the base interior. 72% of the applied motifs are found on the body exterior, with the remaining 28% found in the neck angle. Channelled motifs are found equally on the rim exterior and between the shoulder and neck. Incised motifs are found equally on the rim exterior and body exterior. Other techniques are found exclusively on the body exterior.

Surface Deposits

Overall by weight, 26% of the sherds have no visible surface deposits, 55% of the sherds have charred residue, 18% have slight sooting, and 1% have other types of surface deposit.

Deposition

Overall by weight, 25% of the sherds are of average condition, 69% are abraded and 6% are very abraded. Overall maximum sherd dimension ranges from 30 to 140mm and is normally distributed. The mode is 40mm. Average sherd weight is 31g.

4.2.6 Phase 7

This phase (Fig. 4-6) is dominated by everted rims (Form 9) and flat bases (Form 24). There are small quantities of Forms, 3, 7, 12, 14, 16, 17, 23 and 26, each at quantities of 10% or less by weight. The second most common rim form is Form 17. There are 214 sherds weighing 6100g.

Manufacture

Medium fabrics are the most common overall, with fine fabrics in the minority. The single most common fabric type is shared between medium with moderate inclusions and no vegetal impressions and/or temper and coarse with abundant inclusions and no vegetal impressions and/or temper. Fabrics without vegetal impressions and/or temper are more common than those with them, being 77% to 23% overall.

Table 4-7: Fabric types, percentage by weight (total=6100g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	6	4	1		<1		1		12
Medium	10	1	14	5	9	3	6	<1	48
Coarse	1	<1	6	4	9	2	14	4	40
Total	17	5	21	9	18	5	21	4	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Sixty percent of the vessels have no surviving evidence of manufacturing techniques. The vessels' have been coil built, as indicated by the presence of coil folds (4%) and coil bulges (9%) present on the interior surfaces. The most common type of coil break is an angled break (17%), over four times as common as tongue-and-groove construction (4%). The construction of the rim as a separate section is present on 4% of the vessels, and rims formed by folding are also present (2%). The only form of base construction has an angled join with the wall (6%). The presence of laminar fracture (5%) also suggests coil building.

The exterior surfaces have been finished principally by smoothing (74%), followed by fine wiping (25%). The most common techniques after this are rough wiping (6%) and roughening (6%), followed by finger marking (5%), polishing (4%), burnishing (1%) and very coarse wiping (1%). Eight percent of the vessels exhibit no exterior surface finish. The interior surfaces have been finished principally by smoothing (54%), followed by finger marking (30%). The most common techniques after this are roughening (10%), fine wiping (7%), rough wiping (3%) and paddle-and-anvil (1%). Seven percent of the vessels have no visible interior surface finish. Drying cracks are present (11%), as are star cracks (3%). Sixty-three percent of the vessels have no cracking visible.

By weight, 71% of the sherds have been subjected to an oxidising atmosphere and 28% are unoxidised, with less than 1% being irregularly fired. The most common firing profile is type 1 with 37% by weight, followed by types 3 and 13 with 15% each and type 14 with 11%. Small amounts of types 2, 4, 5, 6, 8, 9 and 12 are present. Fire cracking is present (23%), along with networks of fine cracks (2%) and one example of dunting (1%).

Base diameter ranges from 6cm to 10cm, with a fairly normal distribution. The most frequent measurements are 8cm and 9cm. Rim diameters ranges from 13cm to 24cm and is bi-modally distributed, with peaks at 18cm and 24cm. Sherd thickness ranges from 3mm to 15mm and is normally distributed. The mode is 8mm.

Decoration

By weight, 91% of the base sherds are not decorated, with the remaining 9% bearing impressed decoration, all found on the base interior. Of the remaining sherds, 30% by weight are undecorated, while 65% by weight have applied decoration, 2% has impressed decoration, and there is 1% each present of applied and channelled, incised, and channelled. The majority of all decoration is found on the body exterior, followed by the neck angle, and then the shoulder.

Surface Deposits

By weight, 42% of the sherds have no visible surface deposits, 44% have charred residue present, 13% have slight sooting and 1% have another form of surface deposit.

Deposition

By weight, 26% of the sherds are of average condition, 59% are abraded and 15% are very abraded. Maximum sherd dimension ranges from 20 to 120mm, and is normally distributed. The mode is 50mm.

4.2.7 Phase 6

This phase (Fig. 4-7) is dominated by Form 9. Forms 1, 8, 11, 16 and 17 are also present in small quantities. Of the base forms, Form 24 dominates, while Form 25 is the second most common. There are 187 sherds weighing 4040g.

Medium fabrics make up the majority in this phase. The single most common fabric type is medium with moderate inclusions and no vegetal impressions and/or temper. Fabrics without vegetal impressions and/or temper are more common than those with them, by 77% to 23%. There are no fine fabrics with abundant inclusions.

Table 4-8: Fabric types, percentage by weight (total=4040g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	7	4	4	2	3				20
Medium	4	3	26	7	21	2	4	1	68
Coarse		1	2	1	5	1	1	1	12
Total	11	8	32	10	29	3	5	2	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-four percent of the vessels have no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil folds (6%) and coil bulges (5%) on the sherd interiors. Angled coil breaks are present (12%), with only one example (1%) of a tongue-and-groove coil break. Rims can be manufactured as a separate section (5%) or less commonly formed by folding (2%). Two different construction techniques are present for attaching base plates to the vessel's wall; a base plate with tongue attached to the wall with an angled join (2%) is twice as common as that with a tongue-and-groove join (1%). The presence of laminar fracture (6%) suggests coil building.

The exterior surfaces are finished primarily by smoothing (72%) and fine wiping (30%), with small quantities of polishing (3%), rough wiping (3%), finger marking (8%) and roughening (4%) present. Three percent of the vessels have no visible exterior surface finish. The interior surfaces are finished primarily by smoothing (64%) and finger marking (29%), with small quantities of fine wiping (9%), rough wiping (2%) and roughening present (3%). Five percent of the vessels have no visible interior surface finish. Drying cracks are present (20%). Sixty-seven percent of the vessels exhibit no cracking.

Overall by weight 58% of the sherds have been subjected to an oxidising firing atmosphere, 40% are unoxidised and 2% are irregularly fired. The most common firing profile is type 1 with 38%. This is followed by, in order, type 8 with 18%, type 3 with 15%, type 14 with 9%, type 13 with 8%, type 2 with 4%, types 5 and 12 with 3% each, and types 4 and 10 with 1% each. Types 6, 7 and 9 are not represented. Fire cracking is present (11%).

Base diameters overall range from 6 to 11cm. The mode is 8cm. Rim diameters overall range from 10 to 30cm with the most frequent measurements being 15 and 22cm. Sherd thickness ranges from 4 to 14mm and is normally distributed. The mode is 6mm.

Decoration

All of the base forms are undecorated. Of the rim and body sherds, overall by weight 48% of the sherds are not decorated, 44% have applied decoration, there is 2% each of incised, impressed and other types of decoration, and 1% have channelled decoration. Applied techniques are found either in the rim angle or, more commonly, on the body exterior. Impressed techniques are found either on the shoulder or rim exterior in equal measure, while the channelled motifs are found only on the rim interior. Incised techniques can be found in a variety of positions, most commonly the shoulder but also including rim exterior, body interior and body exterior.

Surface Deposits

Over all by weight 27% of the sherds have no visible surface deposits, 55% have charred residue, 18% have slight sooting and less than 1% have another type of deposit.

Deposition

Overall by weight 27% of the sherds are of average condition, 64% are abraded and 9% are very abraded. Maximum sherd size ranges from 20 to 140mm and is normally distributed. The mode is 50mm.

4.2.8 Phase 5

This phase (Fig. 4-8) is dominated by Form 9, but there is a high percentage of Form 16 as well. Other forms present include Form 1, 3, 5, 7, 8, 10, 11, 12, 15 and 17. Of the base forms, Form 24 is more common than Form 23. There are 471 sherds weighing 9147g.

Manufacture

A wide range of fabric types are present. Medium fabrics comprise the majority of the assemblage, and fine fabrics are a minority. There are no fine fabrics with common inclusions. The single most common fabric type is medium with moderate inclusions and no vegetal impressions and/or temper. Fabrics without vegetal impressions and/or temper are more common than those with them, by 78% to 22% overall.

Table 4-9: Fabric types, percentage by weight (total=9147g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	4	<1	2	1			<1		7
Medium	11	4	18	5	14	6	5	1	64
Coarse	<1	<1	4	1	10	2	10	2	29
Total	15	4	24	7	24	8	15	3	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Sixty-eight percent of the vessels have no surviving evidence of manufacturing techniques. The vessels have been coil built, as evidenced by the presence of coil bulges (4%) and coil folds (6%) on the sherd interiors. Angled coil breaks (9%) are more common than tongue-and-groove coil breaks (6%). Rims are manufactured either as separate sections (8%) or are formed by folding (1%). Base plates are formed with a tongue which is attached to the walls by an angled join (2%) or by a tongue-and-groove join (6%). Less than one percent of the bases have no tongue and the wall is attached to the side of the base plate with an angled join. Laminar fractures are present (4%), suggesting coil building, and star cracks are also present (4%).

The exterior surfaces have been finished primarily by smoothing (51%), with lesser amounts of roughening (20%), fine wiping (18%), finger marking (12%), rough wiping (8%), very coarse wiping (2%) and polishing (1%). Eleven percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (54%) and finger marking (28%), with smaller amounts of fine wiping (9%), roughening (7%), rough wiping (2%), paddle-and-anvil (2%), scraped (1%), and very coarse wiping and finger drawing with less than 1% each. Thirteen percent of the vessels have no visible interior surface finish. Drying cracks are present (12%), while 71 of the vessels demonstrate no cracking at all.

By weight, 48% of the sherds are oxidised and 50% are unoxidised with 2% irregularly fired. The most common firing profile is type 8 with 26% by weight, followed by type 13 and type 1 with 19% each, type 3 with 15%, type 2 with 11%, type 14 with 7%, type 12 with 2% and types 4, 7 and 9 with 1% each. Less than 1% of the vessels exhibit dunting, while 1% of them are spalled. Fire cracking is present (9%), as are networks of fine cracks (2%).

Base diameter across all forms ranges from 5cm to 13cm and is normally distributed centred around 10cm. Form 24 tends to be slightly bigger than Form 23, with Form 23 centred on 9cm and Form 24 centred on 10cm . Rim diameter smallest vessel is Form 9 with diameter of 8cm, largest vessel recorded is Form 3 and 16 both with 29cm. Most common size for Form 16 is 20cm. Most common size for Form 9 perhaps has two small peaks at 15cm and 22cm. Sherd thickness across all forms present is normally distributed around 7mm.

Decoration

By weight overall, 64% of the sherds are not decorated, 28% have applied decoration, 1% each have incised, impressed or channelled decoration and 5% have other types of decoration. No base sherds are decorated however, so if they are excluded then the proportions become, 52% not decorated, 37% applied, 2% channelled, 2% incised, 1% impressed and 6% other.

Table 4-10: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base
Other									
Incised	4	1	1				3		
Impressed	2		2						
Channelled				5			3	1	
Applied	57					21	6		

Surface Deposits

By weight, 37% of the sherds have no visible surface deposits, 36% have charred residue, 25% have slight sooting and 2% have other types of deposit.

Deposition

By weight, 20% of the sherds are of average condition, 67% are abraded and 13% are very abraded. Maximum sherd dimension ranges from 20mm to 130mm and is normally distributed. The mode is 40mm.

4.2.9 Cellular Multiple-phase Contexts

Manufacture

The majority of the fabrics are medium and there is a wide spread of fabric types, although there are no fine fabrics with abundant inclusions at all. The single most common fabric is medium with moderate inclusions and no vegetal impressions and/or temper. Fabrics without vegetal impressions and/or temper are more common than those with them, by 75% to 25% overall. There are 821 sherds weighing 18139g.

Table 4-11: Fabric types, percentage by weight (total=18139g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	6	2	5	1	2	<1			16
Medium	6	2	16	7	15	6	9	1	62
Coarse	1	<1	3	1	8	3	4	2	22
Total	13	4	24	9	25	9	13	3	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy percent of the vessels have no visible manufacturing techniques present. The remainder suggest coil building due to the presence of coil bulges (3%) and coil folds (9%) present on the sherd interiors. Laminar fracture also suggests coil building and is present on 3% of the assemblage. Angled coil breaks (9%) are just over twice as common as tongue-and-groove coil breaks (4%). Rims have been fashioned as separate sections (9%) or have been formed by folding (1%). Star cracking is present on 2% of the vessels. Bases have been formed with base plates with tongues, attached to the walls with angled joins (2%) or with tongue-and-groove joins (3%). Less than 1% of base plates do not have tongues at all. Drying cracks are present on 13% of the vessels. Seventy percent of the vessels do not exhibit any cracking at all.

The exterior surfaces have been finished primarily by smoothing (66%) and fine wiping (29%), with smaller amounts of burnishing (1%), polishing (3%), rough wiping (4%), finger marking (8%), very coarse wiping (less than 1%), and roughening (6%). Nine percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (60%) and finger marking (28%), with smaller amounts of polishing (less than 1%), fine wiping (8%), rough wiping (2%), very coarse wiping (less than 1%), paddle-and-anvil (2%), scraping (less than 1%), and roughening (6%). Nine percent of the vessels have no visible interior surface finish.

By weight overall, 56% of the sherds have been subjected to an oxidising firing atmosphere, 42% are unoxidised, 2% are irregularly fired and 1% are overfired. The most common firing profile is type 1 with 25%, followed by type 8 with 17%, type 3 with 14%, type 13 with 13%, type 14 with 10%, type 2 with 7%, type 4 with 6%, type 12 with 3%, and types 5, 6, 7, 9 and 10 with 1% each. Fire cracking is present on 14% of the vessels, while networks of fine cracks are present on 2% of vessels. Dunting is present on less than 1% of the assemblage.

Base diameter across all forms ranges from 5cm to 13cm and is normally distributed. The mode is 9cm. Rim diameter across all forms ranges from 9cm to 28cm and is bi-modally distributed centred upon 14cm and 19cm. Sherd thickness ranges from 3mm to 15mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, 52% of the sherds are not decorated, 40% have applied decoration, 3% have channelled decoration, 2% have other types of decoration, and there is less than 1% each of impressed, incised, impressed and incised together, channelled and impressed together, applied and incised together, and applied and channelled together. When considering base sherds alone, these proportions are 98% undecorated and 2% with channelled decoration. Considering all rim and body sherds without bases, the proportions change to 43% undecorated and 49% with applied decoration, while the remaining decorative techniques remain the same except other types which increases to 3%. The table below shows the positions of these motifs.

Table 4-12: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior	other
Other	10											
Incised	5					1	1					
Impressed	6		2				5					
Channelled	5		4				8	5			2	1
Applied	163					54	13	1				

By weight overall, 32% of the sherds have no visible surface deposits, 52% have charred residue, 15% have slight sooting and 1% have other types of deposit.

Condition and Sherd Size

By weight overall, 29% of the sherds are of average condition, 53% are abraded and 18% are very abraded. Maximum sherd dimension ranges from 20mm to 150mm and is normally distributed. The mode is 40mm.

4.2.10 Phase 4

This phase (Fig. 4-10) is dominated by Form 15 and 16. There are surprisingly high percentages of Forms 1 and 9. Other forms present include Form 3, 4, 8, 11, 13 and 17. There is a slightly higher percentage of Form 23 than Form 24 for base forms. There are 435 sherds weighing 6213g.

Manufacture

The most common single fabric type is coarse with moderate inclusions and no vegetal impressions and/or temper visible. Fabrics with vegetal impressions and/or temper are less common than those without them. Fine fabrics form a small minority of the overall assemblage, with coarse fabrics slightly more common than medium fabrics, constituting almost half of the assemblage by weight.

Table 4-13: Fabric types, percentage by weight (total=6213g)

	Rare		Sparse		Moderate		Very common		
	N	V	N	V	N	V	N	V	Total
Fine	3	<1	<1	<1		<1		6	9
Medium	2	<1	14	3	11	3	8	1	42
Coarse	3	<1	8	4	19	5	8	2	49
Total	8		22	7	30	8	16	9	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-six percent of the vessels exhibit no surviving evidence of manufacturing techniques. Coil building is suggested by the presence of coil bulges (1%) and coil folds (1%) on the interiors of sherds. Laminar fracture, also suggesting coil building, is present on 5% of the vessels. Angled coil breaks are slightly less common (7%) than tongue-and-groove coil breaks (8%). Rims have been fashioned as separate sections (9%), or have been formed by folding (1%). Bases have been constructed with a tongue on the base plate, which is attached to the wall by angled joins (1%) or by tongue-and-groove joins (7%).

The exterior surfaces have been finished primarily by roughening (35%), smoothing (24%) and finger marking (22%), with smaller amounts of fine wiping (14%), rough wiping (10%), very coarse wiping (1%) and burnishing (less than 1%). Fourteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by finger marking (33%) and smoothing (29%), with smaller amounts of roughening (9%), fine wiping (5), rough wiping (5%), paddle-and-anvil (1%), very coarse wiping (less than 1%), scraping (less than 1%) and finger drawing (less than 1%). Twenty-four percent of the vessels have no visible interior surface finish. Drying cracks are present (11%), along with small quantities of star cracks (4%). Seventy-two percent of the vessels have no cracking present at all.

By weight overall, 27% of the sherds have been subjected to an oxidising firing atmosphere, 71% are unoxidised, 2% are irregularly fired and <1 are overfired. The most common firing profile is type 8 with 34%, followed by type 13 with 19%, types 1 and 3 with 16% each, types 12 and 14 with 5% each, type 2 with 4%, type 9 with 1% and type 4 with less than 1%. Fire cracking is present (9%), as are networks of fine cracks (1%). Dunting is present on less than 1% of the vessels.

Base diameter ranges from 6cm to 14cm across all forms and is normally distributed. The mode is equally 9cm and 10cm. Rim diameter ranges from 12cm to 29cm across all forms and is normally distributed. The mode is 21cm, with a second smaller peak at 28cm. Sherd thickness ranges from 3mm to 15mm and is normally distributed. The mode is 6mm.

Decoration

By weight overall including all sherds, 82% have not been decorated, 9% have applied decoration, 8% have impressed decoration, less than 1% each have incised or channelled decoration and 1% have other types of decoration. None of the base sherds are decorated so if these are excluded then the proportions become 72% undecorated, 13% each with applied or impressed decoration, less than 1% each for channelled and incised and 1% with other types of decoration.

Table 4-14: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base
Other	3				1				
Incised			1				1		
Impressed	1		1		1				
Channelled				1					
Applied	20					10	1		

Surface Deposits

By weight overall, 37% of the sherds have no visible surface deposits, 27% have charred residue, 31% have slight sooting and 5% have other types of deposit.

Condition and Sherd Size

By weight overall, 12% of the sherds are of average condition, 78% are abraded and 10% are very abraded. Maximum sherd dimension ranges from 20mm to 90mm and is normally distributed. excepting an outlier at 170mm. The mode is 40mm.

4.2.11 Phase 3

This phase (Fig. 4-11) is dominated by Form 16. The second most common forms are Forms 4, 7 and 15. There are small quantities of Forms 1, 3, 9, 12. Base Form 23 is slightly more common than Form 24. There are 130 sherds weighing 1940g.

Although there is a range of fabric types present, there are no fine fabrics with either common or abundant inclusions and no coarse fabrics with sparse inclusions. The single most common fabric is coarse with common inclusions and no vegetal impressions and/or temper. Fabrics without vegetal impressions and/or temper are more common than those with them, by 66% to 34% overall. Fine fabrics form the minority.

Table 4-15: Fabric types, percentage by weight (total=1940g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	4	6	2	2					14
Medium	6	<1	9	4	8	12	4		43
Coarse			6	2	19	4	8	4	43
Total	10	6	17	8	27	16	12	4	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-four percent of the vessels have no visible manufacturing techniques. The vessels have been coil built as evidenced by the presence of coil bulges (1%) and coil folds (8%) on the sherd interiors. Laminar fracture is also present (2%), suggesting coil building. Angled coil breaks are less common (2%) than tongue-and-groove coil breaks (8%). Rims have been fashioned as separate sections (5%), or have been formed by folding (1%). Bases have been formed with a tongue on the base plate, attached to the wall by a tongue-and-groove join (9%).

The exterior surfaces have been finished primarily by roughening (35%), smoothing (25%), finger marking (18%) and fine wiping (17%), with smaller amounts of rough wiping (8%), very coarse wiping (3%) and 1% each of burnishing and polishing. Fourteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by finger marking (33%) and smoothing (29%), with smaller amounts of fine wiping (9%), rough wiping (5%), roughening (4%), paddle-and-anvil (3%) and very coarse wiping (1%). Twenty-three percent of the vessels have no visible interior surface finish. Drying cracks are present (17%), with star cracking also present (3%). Seventy percent of the vessels do not exhibit any cracking.

By weight overall, 31% of the sherds have been subjected to an oxidising firing atmosphere, 67% are unoxidised and 2% are irregularly fired. The most common firing profile is type 8 with 31%, followed by type 3 with 21%, type 13 with 20%, type 12 with 11%, type 1 with 9%, type 14 with 5%, types 2, 5 and 6 with 1%, and type 9 with less than 1%. Fire cracking is present (9%), with networks of fine cracks also present (1%).

Base diameter ranges from 7cm to 15cm and is normally distributed. The mode is 11cm. Rim diameter ranges from 10cm to 29cm and is normally distributed. The mode is equally 22cm and 23cm. Sherd thickness across all forms ranges from 3mm to 11mm and is normally distributed. The mode is 6mm.

Decoration

The majority of the base sherds (93%) are not decorated, with 7% having impressed decoration, the motif found on the base interior. The remainder of the sherds comprise 71% undecorated, 15% with impressed decoration, 10% with applied decoration, 3% with applied and incised decoration together and 1% with incised decoration. The positions of the motifs are illustrated in the table below.

Table 4-16: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other											
Incised			1			1					
Impressed						1					1
Channelled											
Applied	2					4	4				

Surface Deposits

By weight overall, 45% of the sherds have no visible surface deposits, 29% have charred residue, 18% have slight sooting and 8% have other types of deposit.

Condition and Sherd Size

By weight overall, 14% of the sherds are of average condition, 68% are abraded and 18% are very abraded. Maximum sherd dimension ranges from 20mm to 140mm and is normally distributed. The mode is 30mm.

4.2.12 Phase 2

This phase (Fig. 4-12) is dominated by Form 16 and the second most common forms are Form 3 and 15. There are small quantities of Forms 1, 4, 6, 8, 9, 10, 11 and 17. Base Form 23 is slightly more common than Form 24. There are 935 sherds weighing 12424g.

Manufacture

The single most common fabric type is coarse with common inclusions and no vegetal impressions and/or temper. Although a range of fabric types are present, there are no fine fabrics with abundant inclusions, and fine fabrics in general are in the minority. Medium fabrics overall are slightly more common than coarse fabrics. Fabrics without vegetal impressions and/or temper are more common than those with them, by 73% to 27%.

Table 4-17: Fabric types, percentage by weight (total=12424g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	10	<1	2	2	1				15
Medium	4	<1	13	6	11	2	4	3	43
Coarse	1	<1	5	2	15	8	7	4	42
Total	15		20	10	27	10	11	7	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Eighty percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built, as evidenced by the presence of coil bulges (2%) and coil folds (1%) on sherd interiors. Angled coil breaks (3%) are less common than tongue-and-groove coil breaks (7%). Laminar fracture is also present

(3%). Rims have been fashioned either as a separate section (8%) or have been formed by folding (1%). Base plates have been formed with tongues, to which the walls are attached by angled joins in less than 1% of cases and by tongue-and-groove joins in 7% of cases. Star cracking is present on 8% of the vessels.

The exterior surfaces have been finished primarily by roughening (37%), with smaller amounts of smoothing (24%), finger marking (22%), fine wiping (13%), rough wiping (9%), very coarse wiping (2%), and paddle-and-anvil and polishing with less than 1% each. Thirteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (34%) and finger marking (31%), with smaller amounts of roughening (9%), fine wiping (8%), rough wiping (4%), paddle-and-anvil (1%), and burnishing, very coarse wiping, scraping and finger drawing with less than 1% each. Nineteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 15% of the vessels. Sixty-seven percent of the vessels exhibit no cracking at all.

By weight overall, 16% of the sherds have been subjected to an oxidising firing atmosphere, 82% are unoxidised and 2% are irregularly fired. The most common firing profile is type 8 with 34%, followed by types 3 and 13 with 20%, type 1 with 8%, type 12 with 7%, type 14 with 5%, type 2 with 3%, types 4, 5 and 9 with 1% each, types 6 and 7 with less than 1% each. Fire cracking is present on 9% of the vessels, while 1% exhibit dunting and 1% exhibit networks of fine cracks.

Base diameter across all forms ranges from 5cm to 20cm and is normally distributed. The mode is 9cm. Rim diameter across all forms ranges from 10cm to 35cm and is normally distributed. The mode is 17cm. Sherd thickness ranges from 3mm to 20mm and is normally distributed. The mode is 6mm.

Decoration

By weight overall, 91% of the sherds are not decorated, 6% have applied decoration, incised, impressed and other types of decoration are represented by 1% each, and channelled and applied and channelled together are represented by less than 1% each. The positions of these motifs are shown in the table below.

Table 4-18: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other	2				5						
Incised	1					1	1				
Impressed	2		1		1	1					1
Channelled	1			1							
Applied	27		1			7	2				

Surface Deposits

By weight overall, 39% of the sherds have no visible surface deposits, 37% have charred residue, 23% have slight sooting and 1% have other types of deposit.

Condition and Sherd Size

By weight overall, 18% of the sherds are of average condition, 67% are abraded and 15% are very abraded. Maximum sherd dimension ranges from 20mm to 120mm and is normally distributed. The mode is 30mm.

4.2.13 Phase 1

This phase (Fig. 4-13) is dominated by Forms 15 and 16, with the next most common form being Form 3. There are small quantities of Forms 4, 6, 8, 9, 11 and 17 present. There are 509 sherds weighing 5500g.

Manufacture

The single most common fabric type is coarse with common inclusions and no vegetal impressions and/or temper present. Fine fabrics are very much in the minority, with coarse fabrics the most common. There are very few fabric types with sparse inclusions. Fabrics without vegetal impressions and/or temper are more common than those with them, by 84% to 16%.

Table 4-19: Fabric types, percentage by weight (total=5500g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	2	<1	1	<1	1				4
Medium	3	1	14	4	13	1	4		40
Coarse	<1	1	12	2	24	4	10	3	56
Total	5	2	27	6	38	5	14	3	100

N = no vegetal markings or temper   V = vegetal temper and/or markings

Eighty percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil bulges (1%) and coil folds (2%) on the sherd interiors. Laminar fracture is also present (4%). Angled coil breaks (3%) are less common than tongue-and-groove coil breaks (7%). Rims have been fashioned as either separate sections (7%) or formed by folding (3%). Base plates are manufactured with a tongue, to which the walls are attached by an angled join in 1% of cases and by a tongue-and-groove join in 5% of cases.

The exterior surfaces have been finished primarily by roughening (41%), with smaller amounts of finger marking (31%), smoothing (15%), fine wiping (12%), rough wiping (8%), and very coarse wiping (1%). Eighteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (31%) and finger marking (30%), with smaller amounts of fine wiping (8%), roughening (8%), rough wiping (6%), very coarse wiping (1%), and paddle-and-anvil (1%). Twenty-two percent of the vessels have no visible interior surface finish. Star cracking is present on 8% of the vessels. Drying cracks are present on 14% of the vessels. Sixty-six percent of the vessels exhibit no cracking at all.

By weight overall, 8% of the sherds have been subjected to an oxidising firing atmosphere,, 91% are unoxidised and 1% are irregularly fired. The most common firing profile is type 8 with 43%, followed by type 13 with 27%, type 3 with 9%, type

12 with 7%, type 14 with 4%, type 2 with 3%, types 1, 4 and 7 with 2%, type 9 with 1%, and types 6 and 10 with less than 1%. Fire cracking is present on 8% of the vessels, along with dunting (1%) and networks of fine cracks (3%).

Base diameter across all forms ranges from 6cm to 15cm and is normally distributed. The mode is 10cm. Rim diameter across all forms ranges from 14cm to 33cm and is normally distributed. The mode is 24cm. Sherd thickness ranges from 4mm to 14mm and is normally distributed. The mode is 6mm.

Decoration

By weight overall, 97% of the sherds are not decorated, while incised, applied and other types of decoration comprise 1% each and impressed decoration comprises less than 1%.

Table 4-20: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other	1				1						
Incised	3										
Impressed					1						
Channelled											
Applied	8					2					

Surface Deposits

By weight overall, 49% of the sherds have no visible surface deposits, 36% have charred residue, 14% have slight sooting and 1% have other types of deposit.

Condition and Sherd Size

By weight overall, 22% of the sherds are of average condition, 56% are abraded and 22% are very abraded. Maximum sherd dimension ranges from 10mm to 110mm and is normally distributed. The mode is 30mm.

4.2.14 Phase 0

This phase (Fig. 4-14) has a mix of forms present, but the most common are Forms 16, 3, 11 and 15, with small quantities of Forms 4, 6, 8, 9 and 17. Of the base forms, Form 23 dominates. There are 213 sherds weighing 3184g.

Manufacture

The single most common fabric type is medium with common inclusions and no vegetal impressions and/or temper. Fine fabrics are very much in the minority, with coarse fabrics dominating. There are few fabrics with sparse inclusions. Fabrics without vegetal impressions and/or temper are more common than those with them, by 69% to 31%.

Table 4-21: Fabric types, percentage by weight (total=3184g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	1	1	1	1					4
Medium	2	1	8	1	19	1	5	4	41
Coarse	2		8	9	14	7	9	6	55
Total	5	2	17	11	33	8	14	10	100

N = no vegetal markings or temper   V = vegetal temper and/or markings

Sixty-six percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil bulges (2%) and coil folds (3%) on the sherd interiors. Angled coil breaks (8%) are slightly less common than tongue-and-groove coil breaks (11%). Laminar fracture is also present (8%). Rims have been fashioned either as separate sections (18%) or formed by folding (2%). Base plates are manufactured with a tongue to which the walls are attached by an angled join in 1% of cases and by a tongue-and-groove join in 9% of cases. Star cracking is present on 7% of the vessels.

The exterior surfaces have been finished primarily by roughening (36%), with finger marking (30%) and smoothing (24%), and smaller amounts of fine wiping (13%), rough wiping (10%), polishing (1%), very coarse wiping (1%) and paddle-and-anvil (1%). Fifteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (35%) and finger marking (28%), with smaller amounts of roughening (9%), fine wiping (7%), rough wiping (5%), very coarse wiping (1%), and paddle-and-anvil (2%). Twenty-four percent of the vessels have no visible exterior surface finish. Drying cracks are present on 19% of the vessels. Sixty-three percent of the vessels exhibit no cracking at all.

By weight overall, 18% of the sherds have been subjected to an oxidising firing atmosphere, 78% are unoxidised and 4% are irregularly fired. The most common firing profile is type 8 with 41%, followed by type 3 with 20%, type 13 with 15%, type 1 with 8%, type 2 with 6%, type 12 with 5%, type 14 with 3%, type 4 with 2%, type 7 with 1%, and type 9 with less than 1%. Fire cracking is present on 5% of the vessels. Dunting is present on 2% of the vessels, while spalling is present on 1%, along with networks of fine cracks on 1% of the vessels.

Base diameter across all forms ranges from 7cm to 15cm and is normally distributed. The mode is 9cm. Rim diameter across all forms ranges from 14cm to 32cm and is normally distributed with the most frequent measurements being equally 17cm and 21cm. Sherd thickness ranges from 3mm to 13mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, 86% of the sherds are not decorated, 10% have applied decoration, 3% have impressed decoration and 1% have incised decoration.

Table 4-22: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other											
Incised	2	1									
Impressed	3				2						
Channelled											
Applied	11										

Surface Deposits

By weight overall, 52% of the sherds have no visible surface deposits, 31% have charred residue, 16% have slight sooting and 1% have other types of deposit.

Condition and Sherd Size

By weight overall, 19% of the sherds are of average condition, 54% are abraded and 27% are very abraded. Maximum sherd dimension ranges from 20mm to 110mm and is normally distributed. The mode is 40mm.

4.2.15 Late Iron Age Multiple-phase Contexts

This phase (Fig. 4-15) has a mix of forms present, but the most common are Forms 16, 9, and 15, with small quantities of Forms 3 and 11. Of the base forms, Form 24 dominates over Form 23 by a small margin. There are 68 sherds weighing 1101.

Manufacture

The single most common fabric type is medium with moderate inclusions and no vegetal impressions and/or temper. Fine fabrics are very much in the minority with medium fabrics just slightly more common than coarse fabrics. The fine fabrics present have sparse inclusions only. Fabrics without vegetal impressions and/or temper are more common than those with them, by 73% to 27%.

Table 4-23: Fabric types, percentage by weight (total=1101g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	7	2							9
Medium	3		18	1	17	2	5		46
Coarse		1	8	5	14	12	1	4	45
Total	10	3	26	6	31	14	6	4	100

N = no vegetal markings or temper   V = vegetal temper and/or markings

Seventy-one percent of the vessels have no surviving evidence of manufacturing techniques. The vessels are coil built, as evidenced by the presence of coil bulges

(2%) and coil folds (2%) on the sherd interiors. Angled coil breaks (6%) are slightly more common than tongue-and-groove coil breaks (5%). Rims have been fashioned as separate sections (9%). Bases have been formed as base plates with a tongue, attached to the walls by a tongue-and-groove join (15%). Star cracking is present on 5% of the vessels.

The exterior surfaces have been finished primarily by smoothing (36%) and roughening (33%), with smaller amounts of fine wiping (17%), finger marking (12%), rough wiping (5%), very coarse wiping (2%) and burnishing (2%). Fourteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (50%), with smaller amounts of finger marking (26%), roughening (6%), rough wiping (3%), fine wiping (2%), paddle-and-anvil (2%) and finger drawing (2%). Seventeen percent of the vessels have no visible interior surface finish. Drying cracks are present on 14% of the vessels. Seventy-three percent of the vessels exhibit no cracking at all.

By weight overall, 42% of the sherds have been subjected to an oxidising firing atmosphere, 55% are unoxidised, 2% have been irregularly fired and 1% are overfired. The most common firing profile is type 8 with 28%, followed by type 1 with 19%, type 3 with 18%, type 13 with 14%, type 2 with 8%, type 14 with 7%, type 12 with 5% and type 9 with less than 1%. Fire cracking is present on 17% of the vessels. Three percent of the vessels exhibit a network of fine cracks.

Base diameter across all forms ranges from 6cm to 11cm. The mode is 9cm. Rim diameter across all forms ranges from 14cm to 25cm. The mode is 19cm. Sherd thickness ranges from 4mm to 14mm and is normally distributed. The mode is 6mm.

Decoration

By weight overall, 88% of the sherds are not decorated, 8% have applied decoration, 2% have impressed decoration and 2% have impressed and incised decoration together. The incised and applied motifs are found on the body exterior, while one impressed motif is found on the body exterior and one in the neck angle.

Surface Deposits

By weight overall, 68% of the sherds have no visible surface deposits, 6% have charred residue, 24% have slight sooting and 2% have other types of deposit.

Condition and Sherd Size

By weight overall, 16% of the sherds are of average condition, 65% are abraded and 19% are very abraded. Maximum sherd dimension ranges from 20mm to 90mm and is normally distributed. The mode is equally 40mm and 50mm.

4.2.16 NE Extension

This phase can be subdivided into lower, middle and upper.

4.2.16.1 NE Extension Lower

This phase (Fig. 4-16) is dominated by Form 7, followed by Form 9, and smaller quantities of Form 1 and Form 4 with less than 5%. Of the base forms, Form 24 has a small majority over Form 23. There are 84 sherds weighing 1009g.

Manufacture

The single most common fabric type is fine with moderate grits and with vegetal impressions and/or temper visible. Fine fabrics form the majority while coarse fabrics are very much in the minority. Fabrics with vegetal impressions and/or temper are more common than those without them, by 56% to 44%.

Table 4-24: Fabric types, percentage by weight (total=1009g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	6		20	25	<1		1		52
Medium	1	<1	9	4	4	23	3		44
Coarse						2		2	4
Total	7		29	29	4	25	4	2	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-five percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil bulges (2%) and coil folds (15%) on the sherd interiors. Laminar fracture is also present (6%). Angled coil breaks only are present (2%). Rims have been fashioned as either a separate section (6%) or formed by folding (8%). Two percent of the bases have been formed as base plates with tongues, attached to the walls by an angled join. Star cracking is present on 2% of the vessels.

The exterior surfaces have been finished primarily by smoothing (54%), with smaller amounts of fine wiping (19%), finger marking (10%), rough wiping (8%), polishing (6%), roughening (6%) and burnishing (2%). Twenty-one percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (54%) and finger marking (29%), with a smaller amount of fine wiping (4%). Seventeen percent of the vessels have no visible interior surface finish. Drying cracks are present on 10% of the vessels. Seventy-one percent of the vessels exhibit no cracking at all.

By weight overall, 26% of the sherds have been subjected to an oxidising firing atmosphere and 74% are unoxidised. The most common firing profile is type 3 with 30%, followed by type 2 with 27%, type 8 with 21%, type 1 with 7%, type 6 with 6%, types 13 and 14 with 4% each, and type 4 with 1%. Fire cracking is present on 17% of the vessels.

Base diameter across all forms ranges from 5cm to 10cm with no single measurement being more frequent. Rim diameter across all forms ranges from 14cm to 30cm. The mode is 22cm. Sherd thickness ranges from 3mm to 13mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, 33% of the sherds have not been decorated, 47% have incised decoration, 7% have applied decoration, 7% have impressed decoration, less than 1% have channelled decoration, 5% have impressed and incised decoration together and 1% have other types of decoration. The table below shows how these motifs are distributed across the vessel.

Table 4-25: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other								1			
Incised	8	1	1			4	2				
Impressed	2		2			3					
Channelled	1										
Applied	6										

Surface Deposits

By weight overall, 32% of the sherds have no visible surface deposits, 62% have charred residue, and 6% have slight sooting.

Condition and Sherd Size

By weight overall, 29% of the sherds are of average condition, 63% are abraded and 8% are very abraded. Maximum sherd dimension ranges from 20mm to 110mm and is normally distributed. The mode is 40mm.

4.2.16.2 NE Extension Middle

This phase (Fig. 4-17) is dominated by Form 9. This is followed by Forms 1, 7 and 8. Of the base forms, Form 24 dominates, followed by Form 23 and then Form 26. There are 146 sherds weighing 1769g.

The single most common fabric type is fine with moderate inclusions and no vegetal impressions and/or temper. Medium fabrics are the most common by a small margin, with coarse fabrics forming the minority. Fabrics without vegetal impressions and/or temper are more common than those with them, by 69% to 31%.

Table 4-26: Fabric types, percentage by weight (total=1769g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	14	4	18	1	4	1			42
Medium	4		8	12	10	7	2	4	47
Coarse			9					2	11
Total	18	4	35	13	14	8	2	6	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-four percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil bulges (2%) and coil folds (12%) on the sherd interiors. Laminar fracture is also present on 6% of the vessels. Angled coil breaks are only present on 12% of the vessels. Rims have been fashioned either as separate sections (9%) or formed by folding (3%). The bases have been formed as a base plate with a tongue, to which the walls are attached in 1% of cases by and angled join and in 1% of cases by a tongue-and-groove join. Star cracking is present on 2% of the vessels.

The exterior surfaces have been finished primarily by smoothing (66%) with fine wiping (31%), with smaller amount of polishing (4%), rough wiping (4%), roughening (3%), burnishing (2%), and finger marking (2%). Fourteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (59%), with finger marking (22%), fine wiping (9%) and roughening (1%) also present. Fourteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 4% of the vessels. Eighty-two percent of the vessels exhibit no cracking at all.

By weight overall, 46% of the sherds have been subjected to an oxidising firing atmosphere and 54% are unoxidised. The most common firing profile is type 13 with 26%, followed by type 3 with 20%, type 1 with 19%, type 8 with 15%, type 2 with 11%, type 14 with 3%, types 10 and 12 with 2% each, types 4 and 6 with 1% each. Fire cracking is present on 7% of the vessels, while 1% exhibit a network of fine cracks.

Base diameter across all forms ranges from 7cm to 12cm and is normally distributed. The mode is equally 7cm and 10cm. Rim diameter across all forms ranges from 9cm to 18cm and is normally distributed. The mode is equally 12cm and 18cm. Sherd thickness ranges from 3mm to 12mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, 56% of the sherds have not been decorated, 19% have applied decoration, 8% have channelled decoration, 4% have impressed decoration, 4% have incised decoration, 1% have applied and channelled decoration together, 4% have applied and incised decoration together, 2% have channelled and incised decoration together, and 2% have impressed and incised decoration together. The distribution of these motifs across the vessels is shown in the table below.

Table 4-27: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other											
Incised	9					2	6				
Impressed	1		3			2					2
Channelled							3	3			
Applied	18						3				

Surface Deposits

By weight overall, 29% of the sherds have no visible surface deposits, 41% have charred residue and 30% have slight sooting.

Condition and Sherd Size

By weight overall, 30% of the sherds are of average condition, 55% are abraded and 15% are very abraded. Maximum sherd dimension ranges from 20mm to 90mm and is normally distributed. The mode is 40mm.

4.2.16.3 NE Extension Upper

This phase (Fig. 4-18) is dominated by Form 9. There are smaller quantities of Forms 3, 8, 10 and 16. Base Form 23 dominates over Form 24. There are 47 sherds weighing 343g.

Manufacture

The single most common fabric type is shared between medium fabric with sparse inclusions and medium fabric with moderate inclusions, each with no vegetal impressions and/or temper. Coarse fabrics are in the minority while medium fabrics form the majority. Fabrics without vegetal impressions and/or temper are more common than those with them, by 88% to 12%. There are no fine fabrics with abundant inclusions, or coarse fabrics with sparse or moderate inclusions.

Table 4-28: Fabric types, percentage by weight (total=343g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	16	3	7	2	1				29
Medium	17	4	17	3	9		13		63
Coarse					2		6		8
Total	33	7	24	5	12		19		100

N = no vegetal markings or temper V = vegetal temper and/or markings

Ninety-one percent of the vessels have no visible manufacturing techniques. Coil folds are present on sherd interiors (4%). Angled coil breaks only are present (2%). Rims have been fashioned as separate sections (2%). Base plates have been formed with a tongue to which the walls are attached with an angled join (2%). Star cracking is present on 2% of the vessels.

The exterior surfaces have been finished primarily by smoothing (55%), with smaller amounts of fine wiping (17%), polishing (4%), rough wiping (4%), finger marking (4%), and roughening (2%). Twenty-one percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (60%), with smaller amounts of fine wiping (9%), finger marking (9%) and roughening (2%). Twenty-three percent of the vessels have no visible interior surface finish. Drying cracks are present on 2% of the vessels. Seventy-one percent of the vessels exhibit no cracking at all.

By weight overall, 53% of the sherds have been subjected to an oxidising firing atmosphere and 47% are unoxidised. The most common firing profile is type 1 with 27%, followed by type 8 with 24%, type 13 with 18%, type 2 with 14%, type 3 with 9%, type 14 with 4%, type 4 with 3%, and type 9 with 1%. Fire cracking is present on 17% of the vessels.

Only one rim diameter was measurable, at 22cm. Sherd thickness ranges from 4mm to 15mm and is normally distributed. The mode is 6mm.

Decoration

By weight overall, 62% of the sherds have not been decorated, 23% have applied decoration, 10% have incised decoration and 5% have impressed decoration.

Surface Deposits

By weight overall, 68% of the sherds have no visible surface deposits, 16% have charred residue and 17% have slight sooting.

Condition and Sherd Size

By weight overall, 11% of the sherds are of average condition, 28% are abraded and 61% are very abraded. Maximum sherd dimension ranges from 20mm to 60mm and is normally distributed. The mode is 30mm.

4.2.17 Galleries Unphased

This phase (Fig. 4-19) has a mix of forms present and is dominated by Forms 9 and 16. There are smaller quantities of Forms 1, 3, 4, 5, 7, 8, 10, 11, 12 and 15. There are almost equal quantities of base Forms 23 and 24 and a small quantity of Form 25. There are 690 sherds weighing 12283g.

Manufacture

The single most common fabric type is coarse with common inclusions and no vegetal impressions and/or temper present. Fine fabrics form the minority and medium fabrics only just form the majority. Fabrics without vegetal impressions and/or temper are slightly more common than those with them, by 57% to 43%.

Table 4-29: Fabric types, percentage by weight (total=12283g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	5	6	2	2	<1		<1		15
Medium	3	5	8	9	6	4	6	2	43
Coarse	<1	<1	7	2	11	7	9	6	42
Total	8	11	17	13	17	11	15	8	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-seven percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels have been coil built as evidenced by the presence of coil bulges (2%) and coil folds (7%) on sherd interiors. Laminar fracture is also present (3%). Angled coil breaks (5%) are slightly more common than tongue-and-groove coil breaks (4%). Rims have been fashioned either as separate sections (7%) or formed by folding (3%). Base plates have been formed with tongues to which the walls are attached by angled joins in 1% of cases and by tongue-and-groove joins in 3% of cases. Star cracking is present on 4% of the vessels.

The exterior surfaces have been finished primarily by smoothing (41%), with fine wiping (20%) and roughening (17%), and smaller amounts of finger marking (14%), rough wiping (8%), burnishing (1%), polishing (1%), very coarse wiping (1%), paddle-and-anvil (less than 1%) and scraping (less than 1%). Twenty percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (35%) and finger marking (30%), with smaller amounts of fine wiping (8%), roughening (5%), rough wiping (3%), paddle-and-anvil (3%) and very coarse wiping (1%). Twenty-six percent of the vessels have no visible interior surface finish. Drying cracks are present on 15% of the vessels. Seventy percent of the vessels exhibit no cracking at all.

By weight overall, 53% of the sherds have been subjected to an oxidising firing atmosphere, 46% are unoxidised, less than 1% are irregularly fired and less than 1% are overfired. The most common firing profile is type 1 with 24%, followed by type 8 with 23%, type 3 with 19%, type 13 with 12%, types 2 and 14 with 8% each, type 12 with 3%, types 4, 5 and 9 with 1% each, and type 6 with less than 1%. Fire cracking is present on 12% of the vessels. Spalling is present on 1% of the vessels, and less than 1% exhibit dunting. Networks of fine cracks are present on 1% of the vessels.

Base diameter across all forms ranges from 5cm to 15cm and is normally distributed. The mode is equally 8cm and 9cm. Rim diameter across all forms ranges from 11cm to 35cm and is normally distributed. The mode is equally 17cm and 22cm. Sherd thickness ranges from 3mm to 15mm and is normally distributed. The mode is 6mm.

Decoration

By weight overall, 53% of the sherds are not decorated, 23% have applied decoration, 8% have impressed decoration, 7% have incised decoration, 4% have applied and channelled decoration together, 1% have applied and impressed decoration together, 2% have channelled decoration, 2% have applied and other types of decoration together, 1% have impressed and incised decoration together, less than 1% have applied and incised decoration together, and less than 1% have other types of decoration.

Table 4-30: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other	4										
Incised	12	1	3			13	2				
Impressed	9		10		4	12	2				2
Channelled	2		1	3			2	4			
Applied	74					11	12	1			

Surface Deposits

By weight overall, 35% of the sherds have no visible surface deposits, 37% have charred residue, 26% have slight sooting and 2% have other types of deposit.

Condition and Sherd Size

By weight overall, 23% of the sherds are of average condition, 58% are abraded and 19% are very abraded. Maximum sherd dimension ranges from 20mm to 150mm and is normally distributed. The mode is 40mm.

4.2.18 Entrance Area Unphased

This phase (Fig. 4-20) is dominated by Form 9. There are smaller quantities of Forms 3, 8 and 16. Base Form 24 dominates over Form 23. There are 60 sherds weighing 1118g.

Manufacture

The single most common firing profile is medium with common inclusions and no vegetal impressions and/or temper present. There are no fine fabrics with abundant inclusions or coarse fabrics with sparse inclusions. Fine fabrics form the minority. Fabrics without vegetal impressions and/or temper are more common than those with them, by 84% to 16%.

Table 4-31: Fabric types, percentage by weight (total=1118g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	4		2		1				7
Medium	6	4	11	5	21	1	4		52
Coarse			1	2	14	1	20	3	41
Total	10	4	14	7	36	2	24	3	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Eighty-one percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels have been coil built as evidenced by the presence of coil bulges (5%) and coil folds (5%) on the sherd interiors. Laminar fracture is also present (2%). Angled coil breaks (9%) only are present. Rims have been fashioned as separate sections (2%). Base plates have been formed with a tongue to which the walls are attached by angled joins (4%). Star cracking is present on 2% of the vessels.

The exterior surfaces have been finished primarily by smoothing (56%) and fine wiping (26%), with smaller amounts of roughening (11%), rough wiping (5%), polishing (4%), and finger marking (2%). Twelve percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (56%) and finger marking (32%), with smaller amounts of fine wiping (7%), rough wiping (4%) and roughening (4%). Nine percent of the vessels have no visible interior surface finish. Drying cracks are present on 14% of the vessels. Sixty-eight percent of the vessels exhibit no cracking at all.

By weight overall, 70% of the sherds have been subjected to an oxidising firing atmosphere, 29% are unoxidised and 1% have been irregularly fired. The most common firing profile is type 13 with 23%, followed by type 1 with 22%, type 2 with 18%, type 3 with 15%, type 8 with 9%, type 14 with 6%, type 6 with 4%, and types 5 and 12 with 1% each. Fire cracking is present on 18% of the vessels.

Base diameter across all forms ranges from 6cm to 10cm. The mode is 10cm. Only two rim diameters across all forms were measurable, at 15cm and 19cm. Sherd thickness ranges from 4mm to 15mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, 52% of the sherds have not been decorated, 40% have applied decoration and 8% have incised decoration. The incised motifs are found on the body exterior. The applied motifs are found primarily on the body exterior and also in the neck angle.

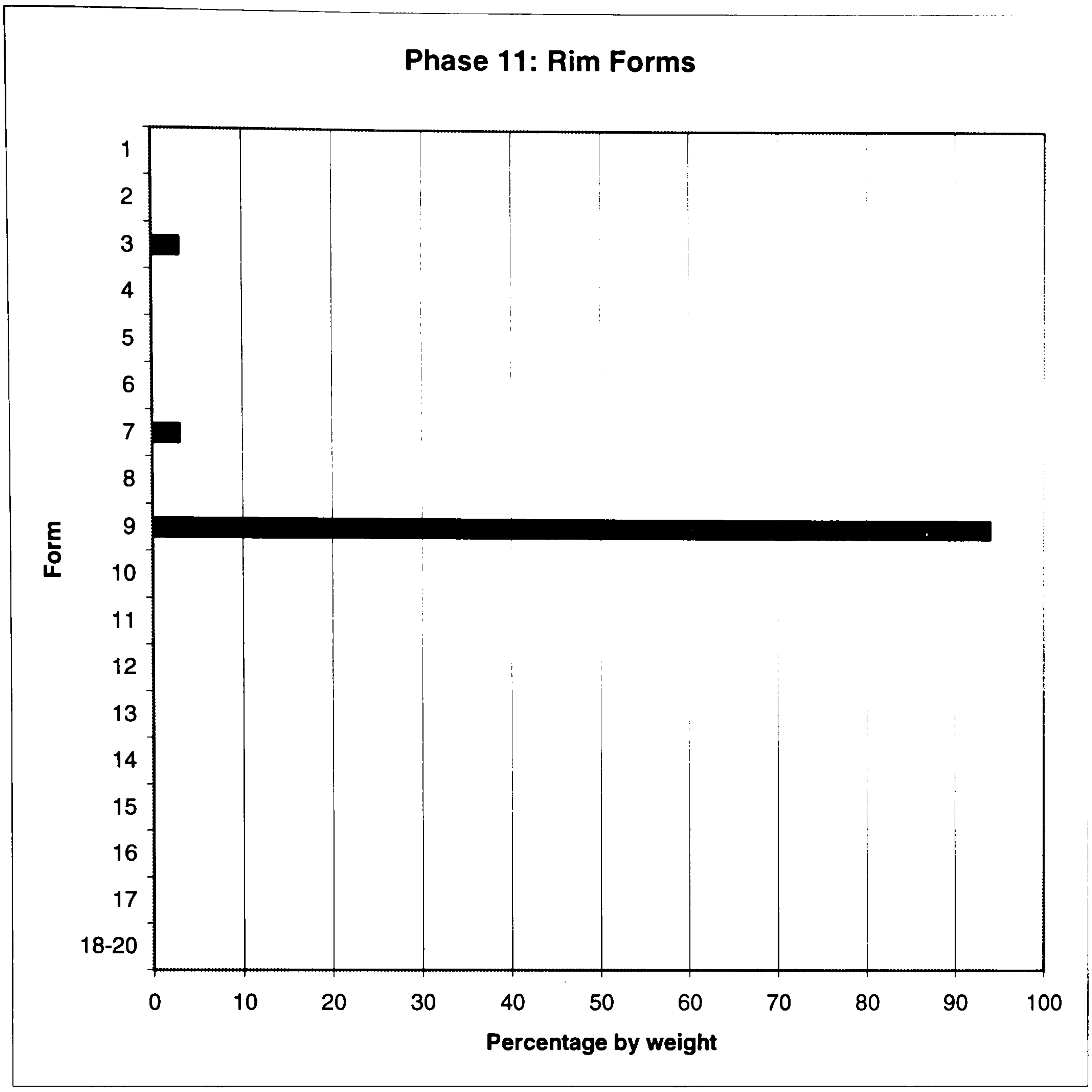
Surface Deposits

By weight overall, 48% of the sherds have no visible surface deposits, 37% have charred residue and 15% have slight sooting.

Condition and Sherd Size

By weight overall, 18% of the sherds are of average condition, 64% are abraded and 18% are very abraded. Maximum sherd dimension ranges from 20mm to 90mm and is normally distributed. The mode is 40mm.

Fig. 4-1: Forms present in Phase 11



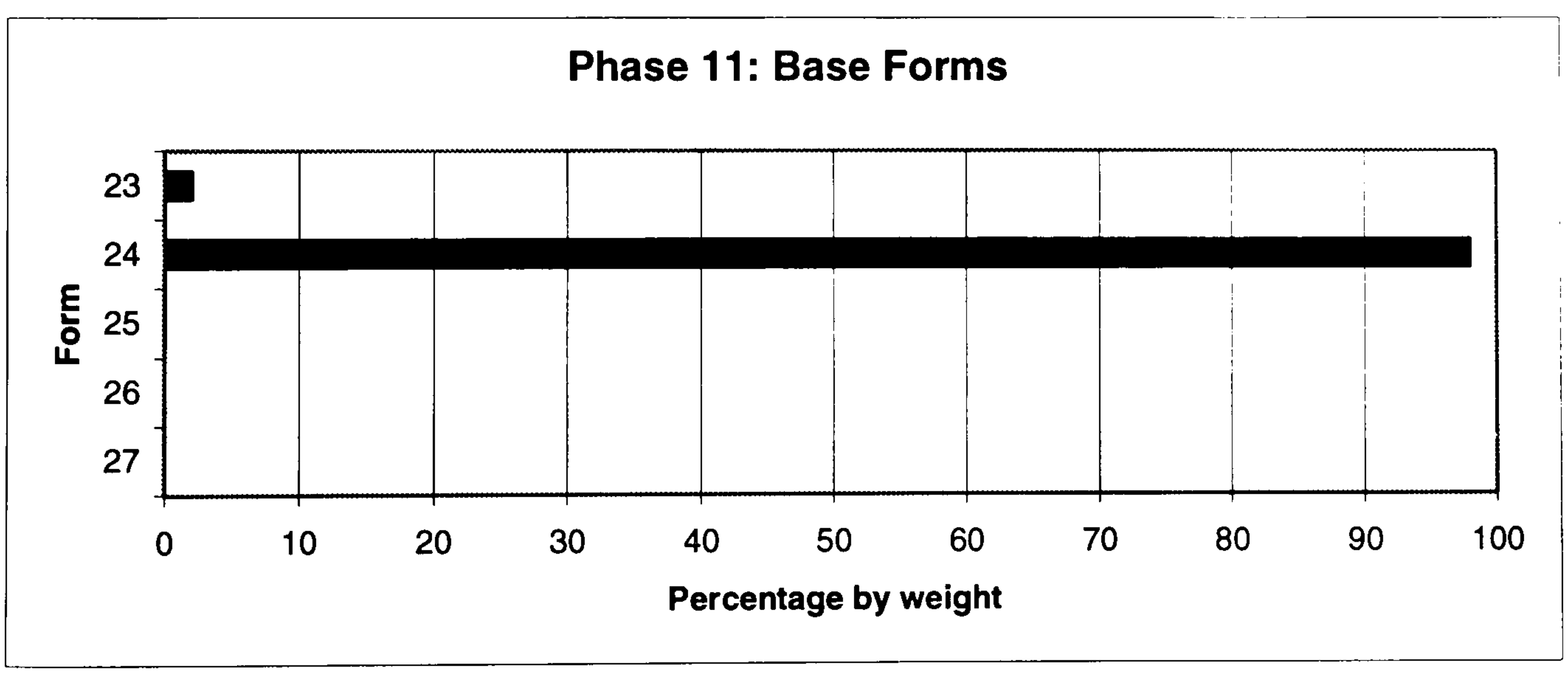
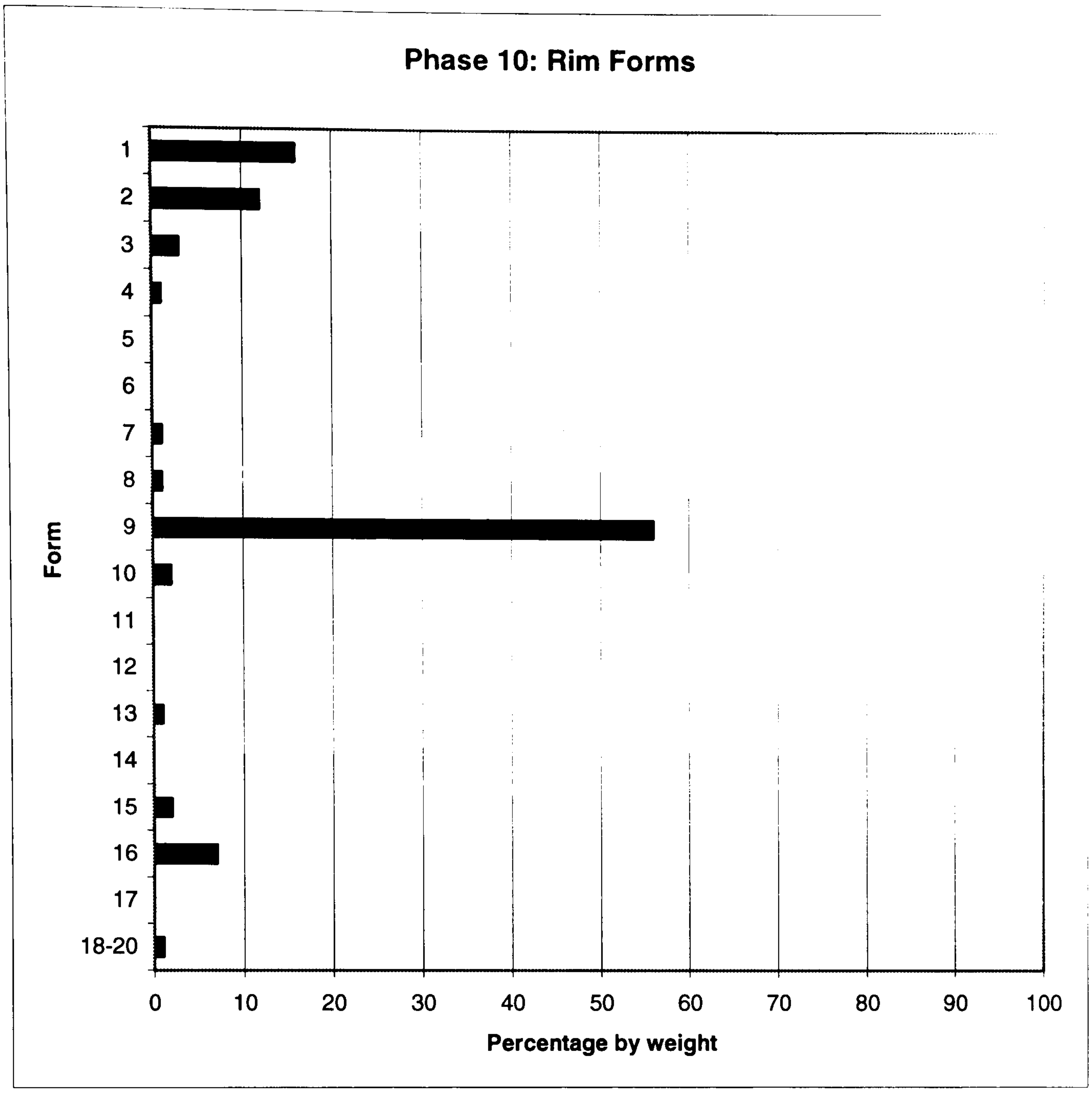


Fig. 4-2: Forms present in Phase 10



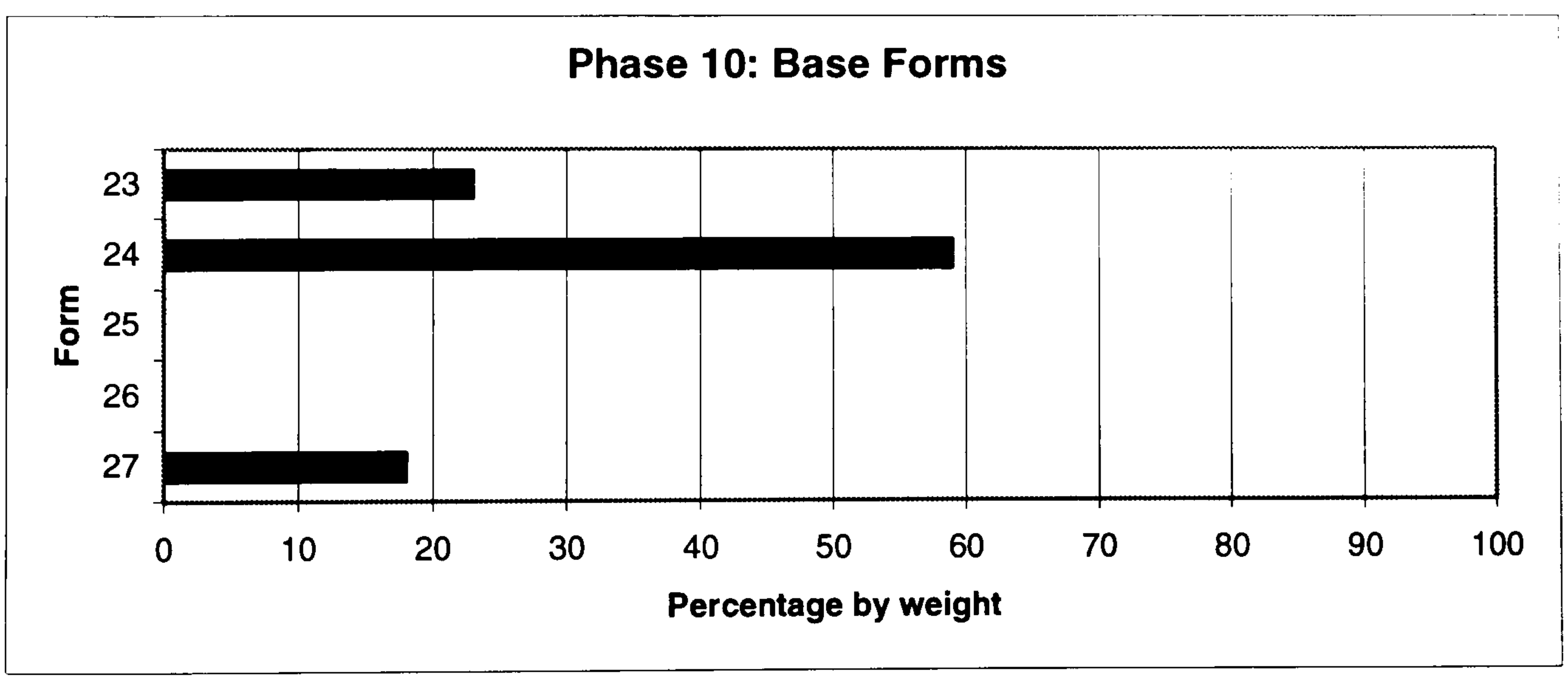
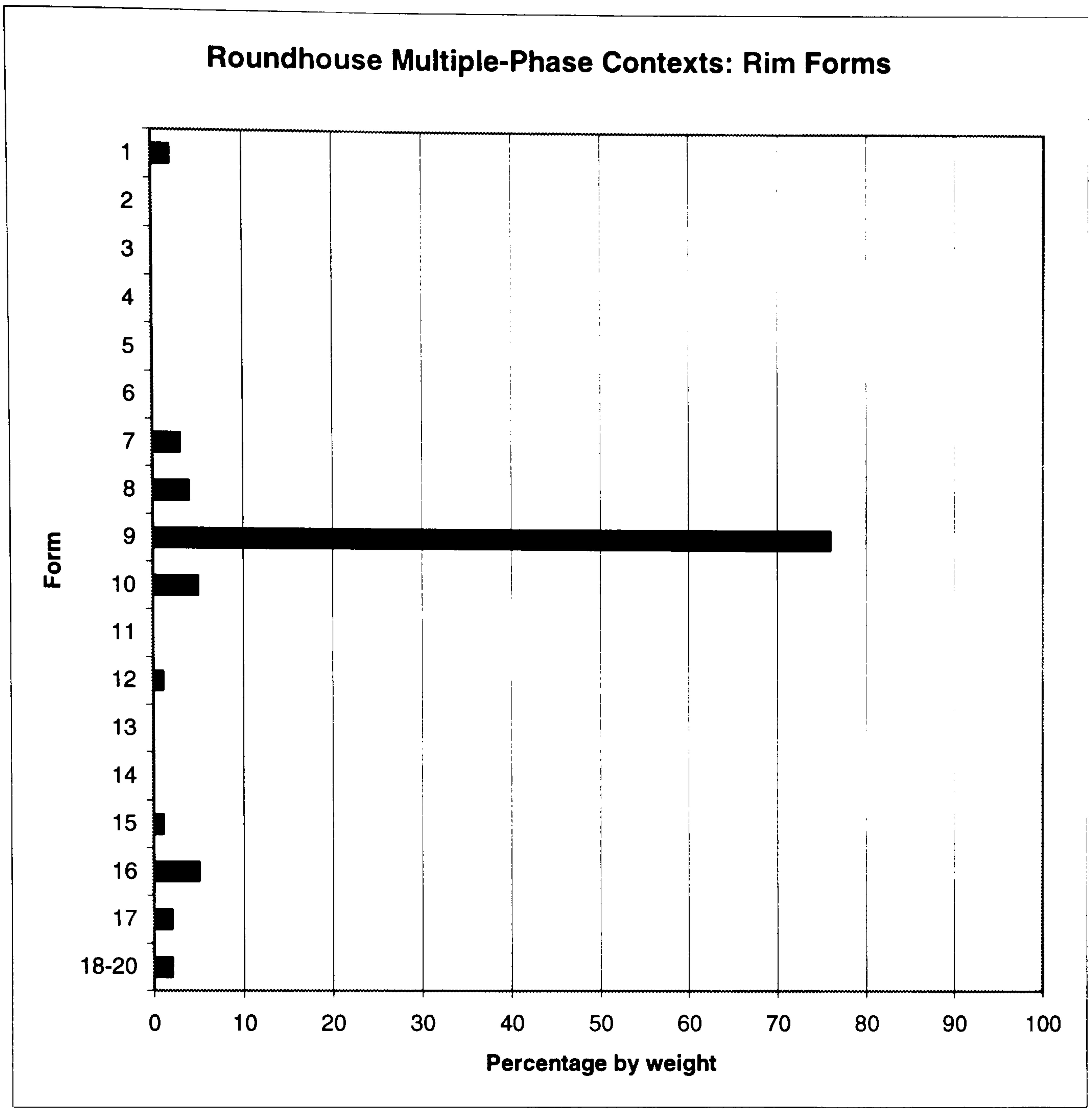


Fig. 4-3: Forms present in Roundhouse Multiple-Phase contexts



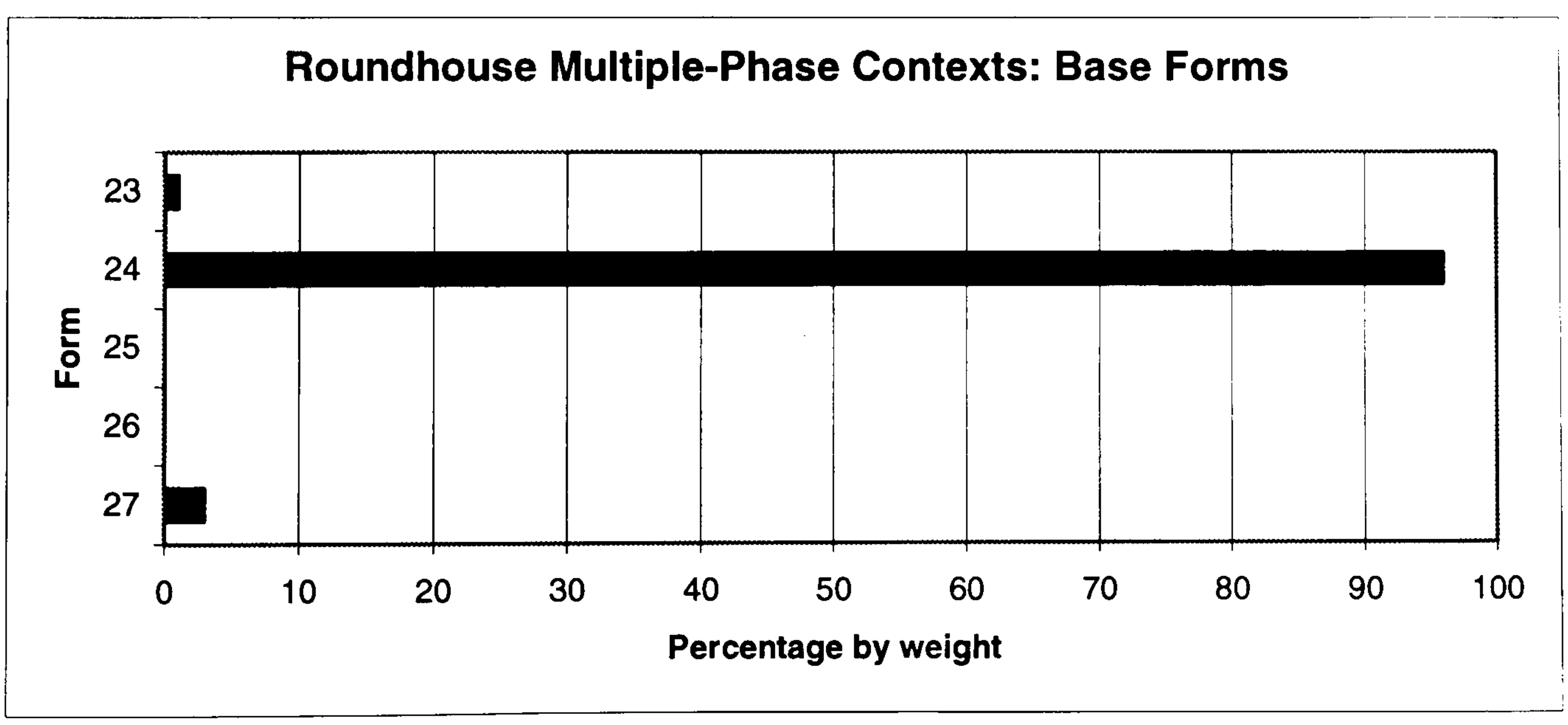
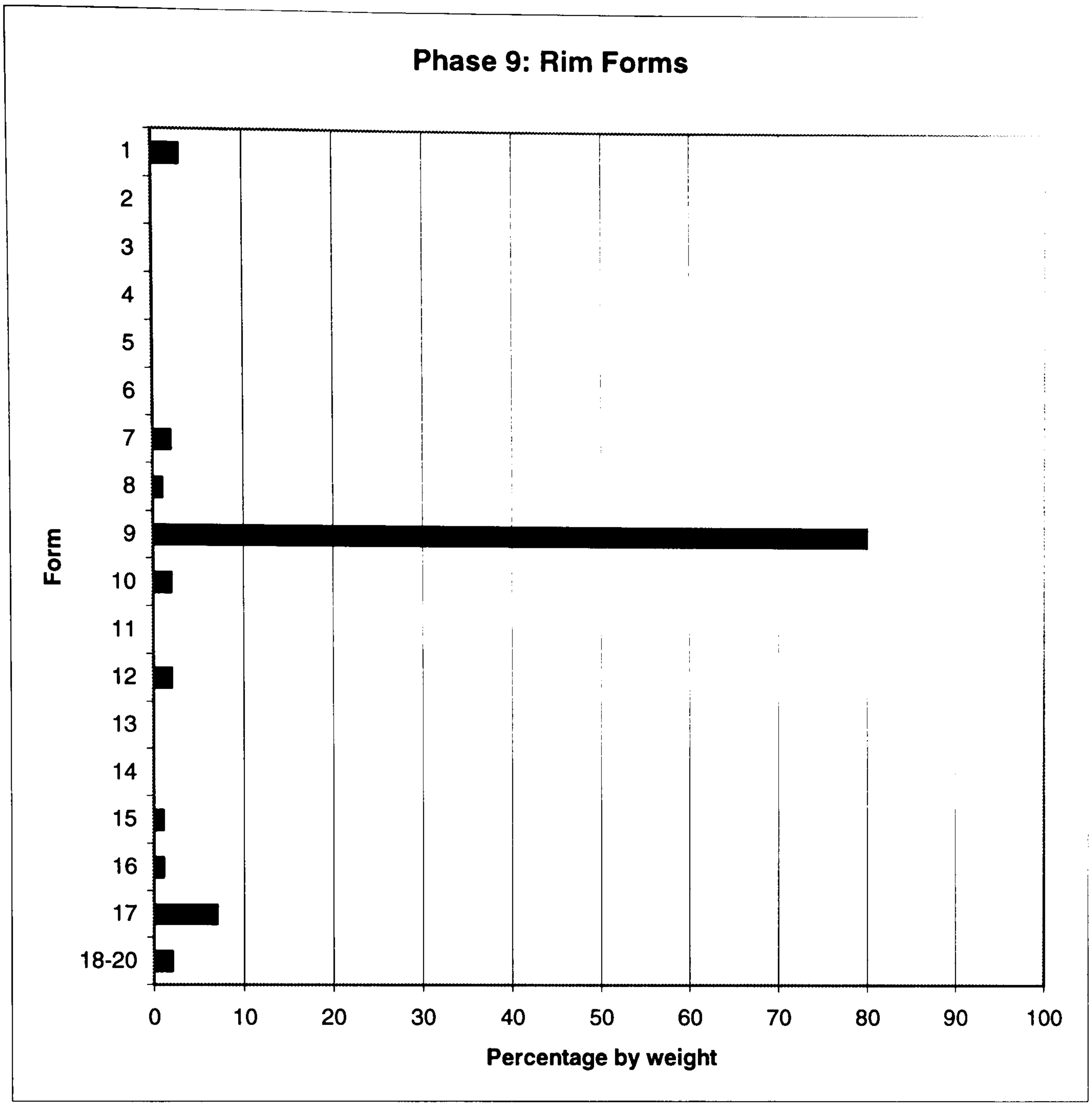


Fig. 4-4: Forms present in Phase 9



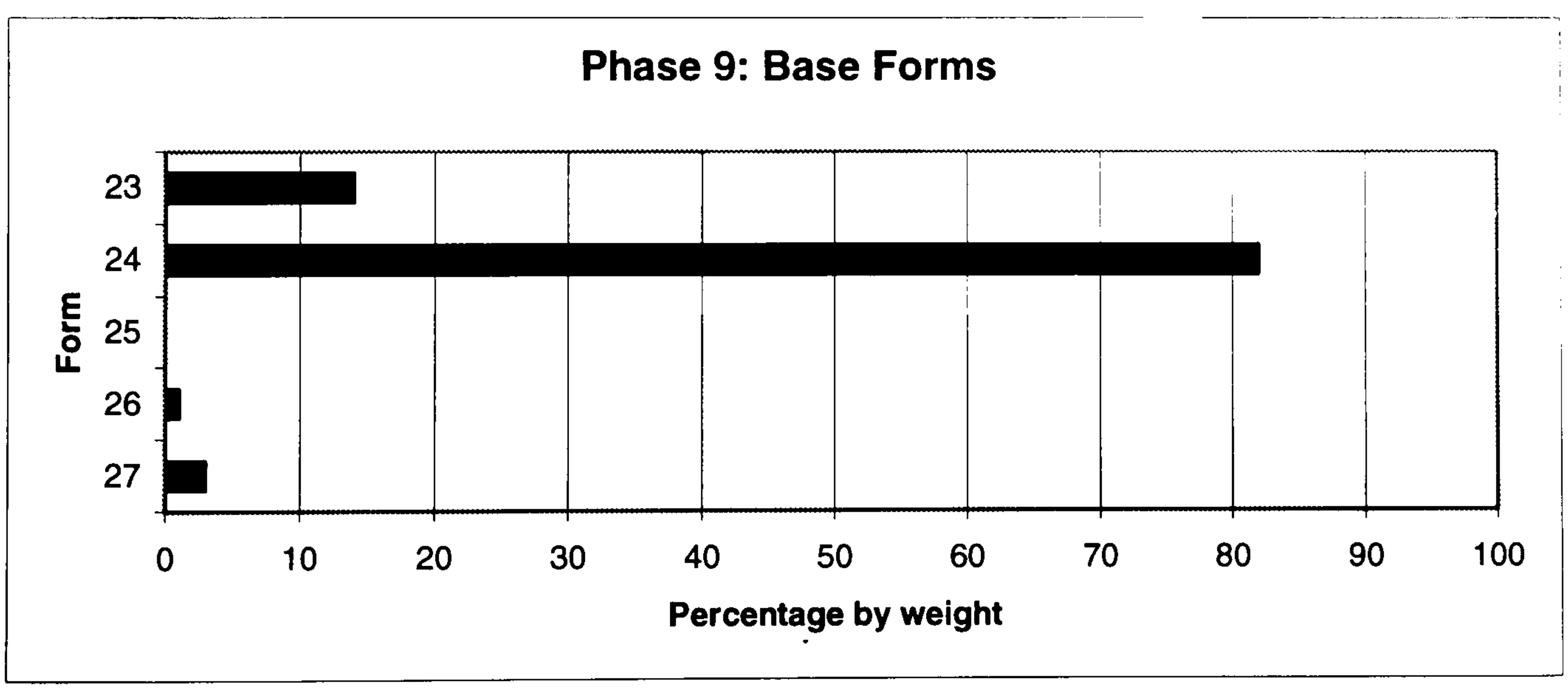
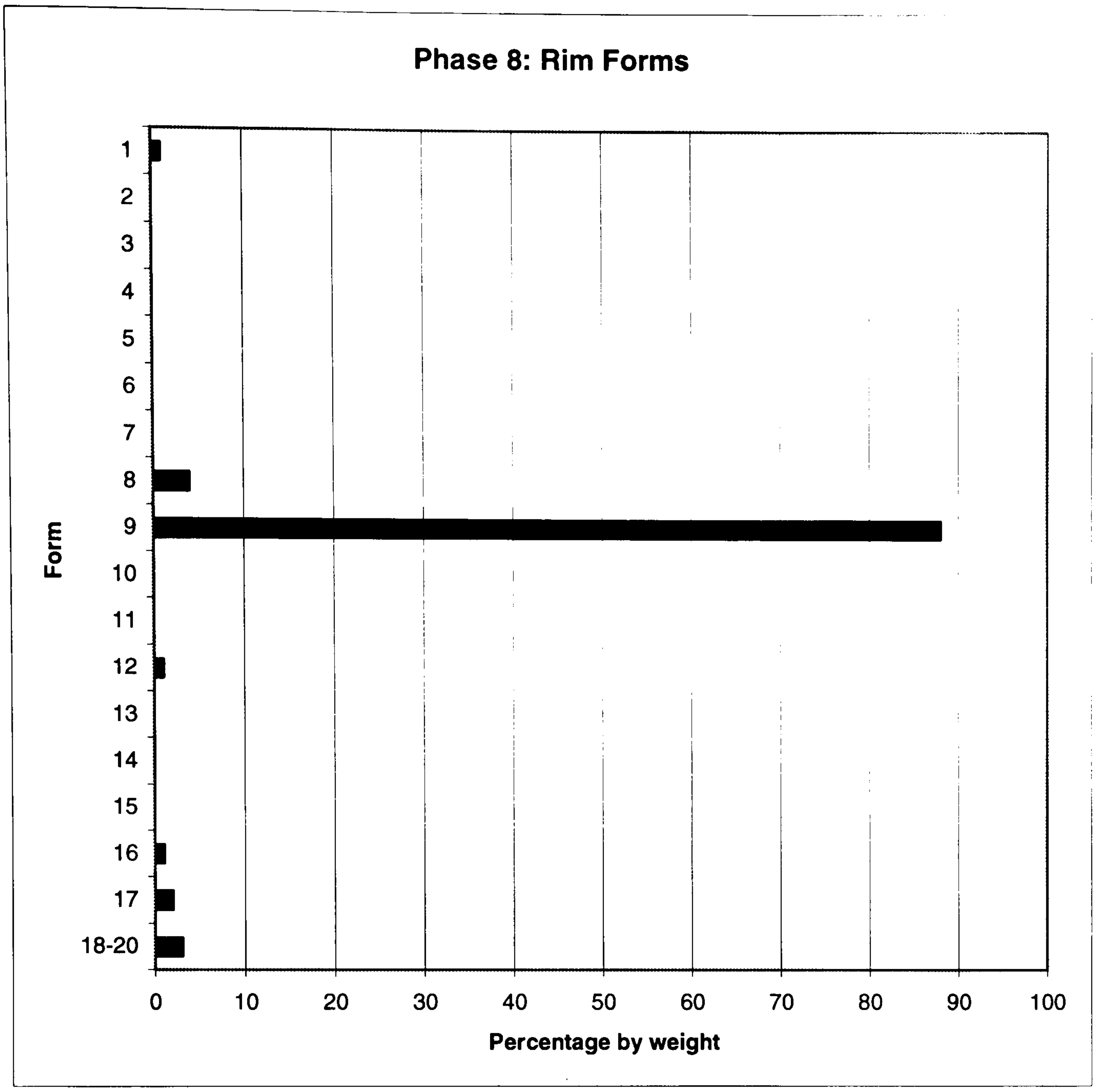


Fig. 4-5: Forms present in Phase 8



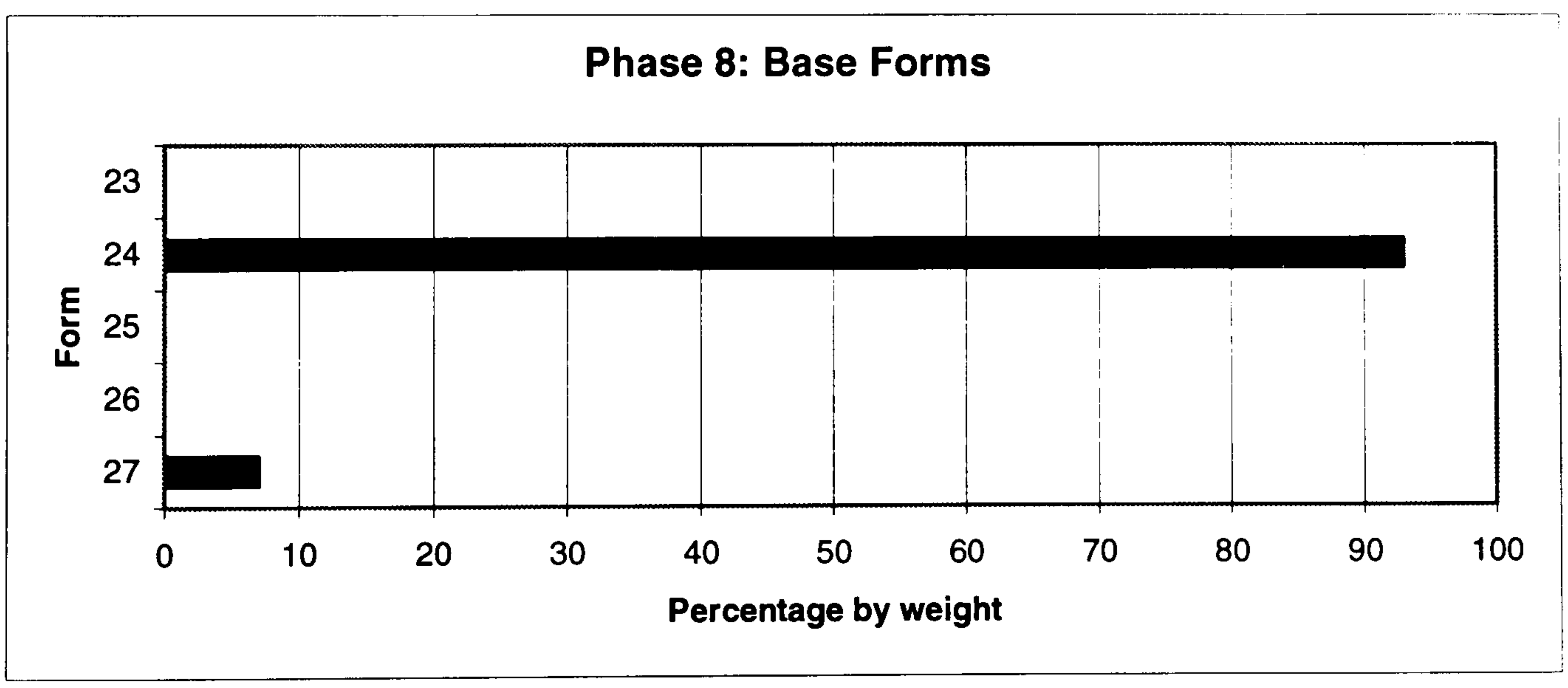
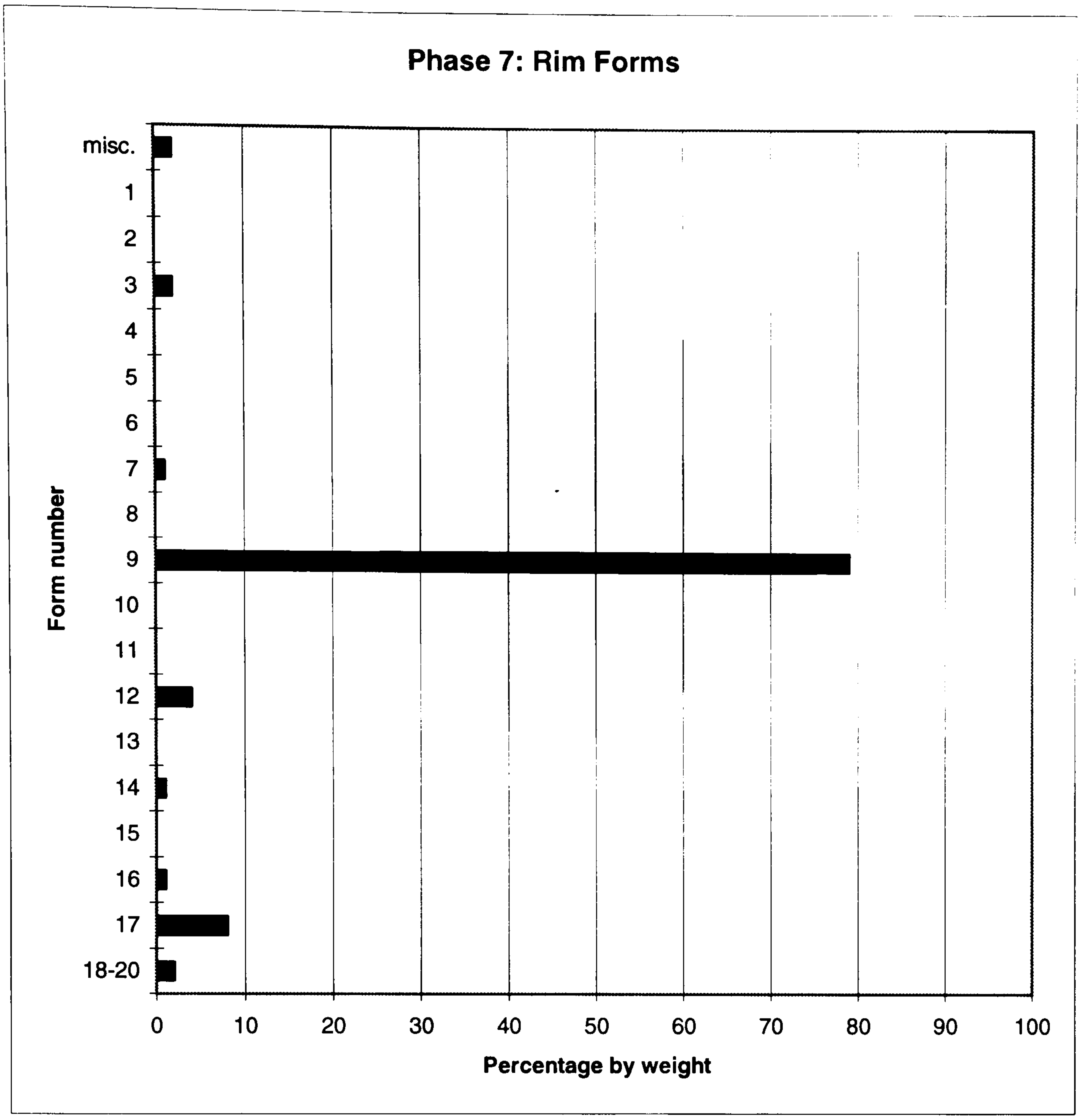


Fig. 4-6: Forms present in Phase 7



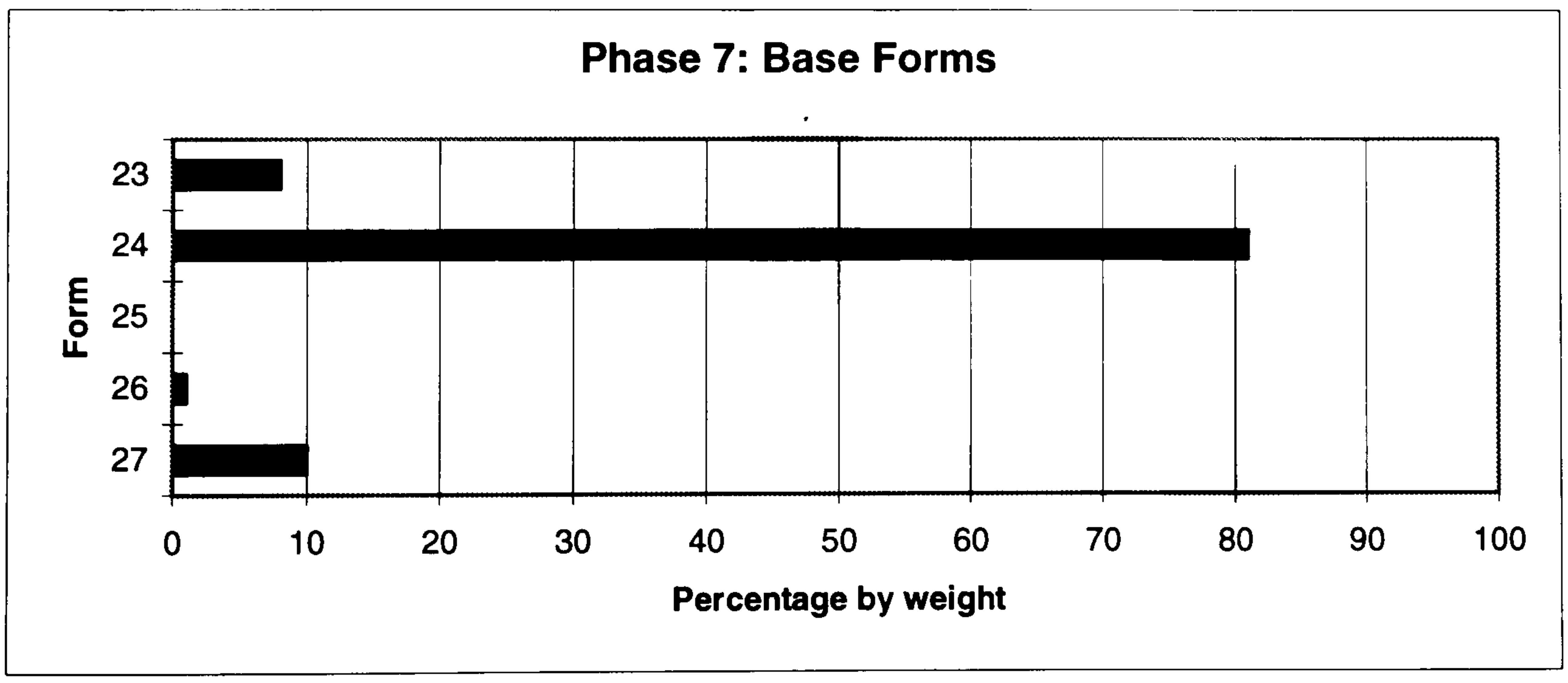
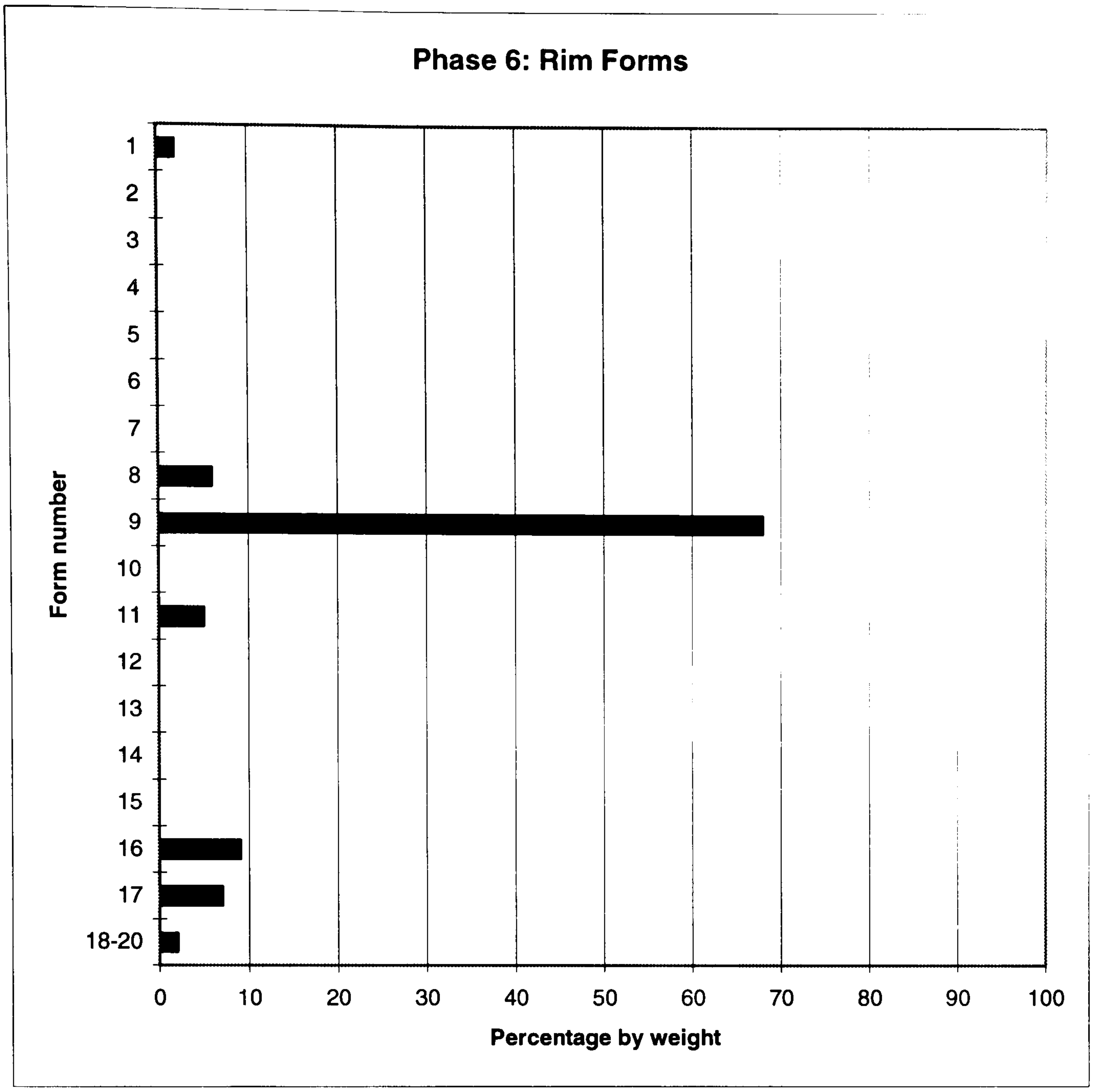


Fig. 4-7: Forms present in Phase 6



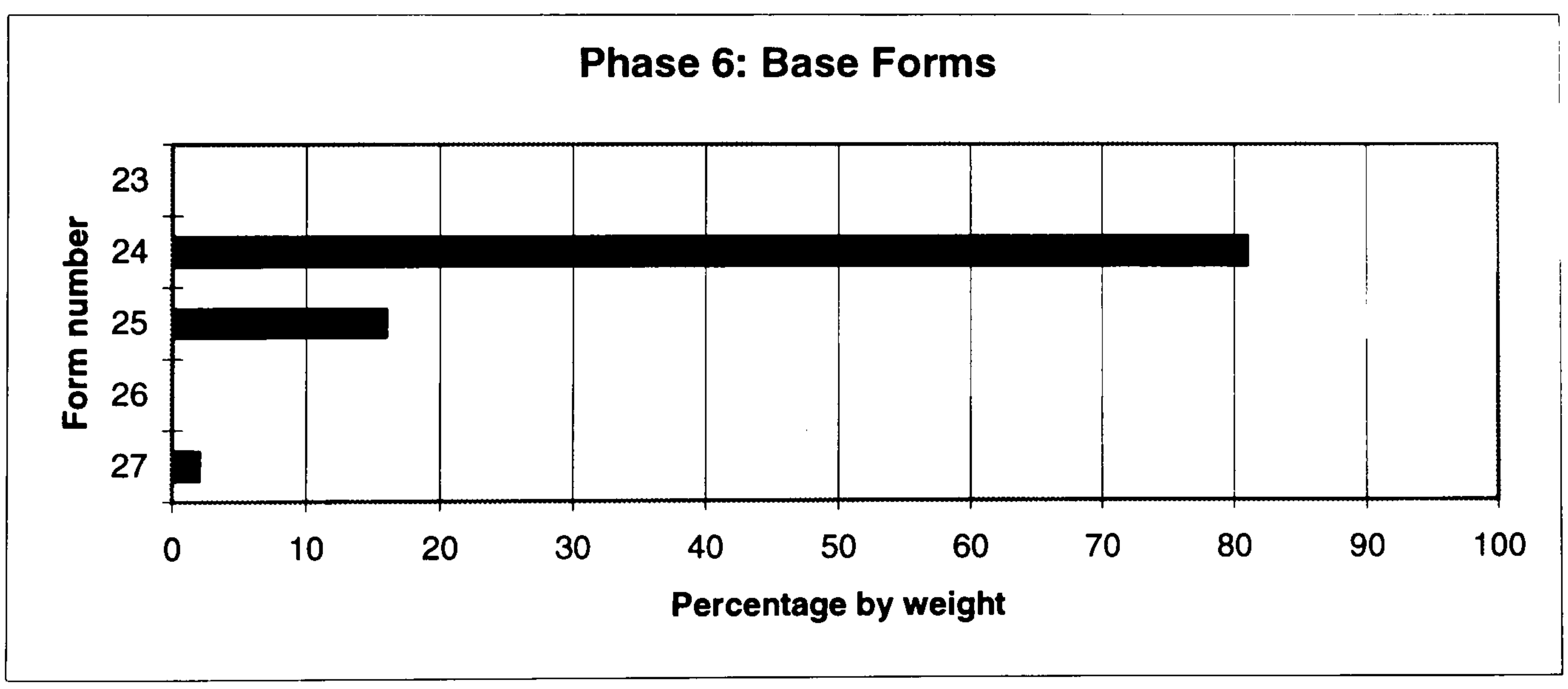
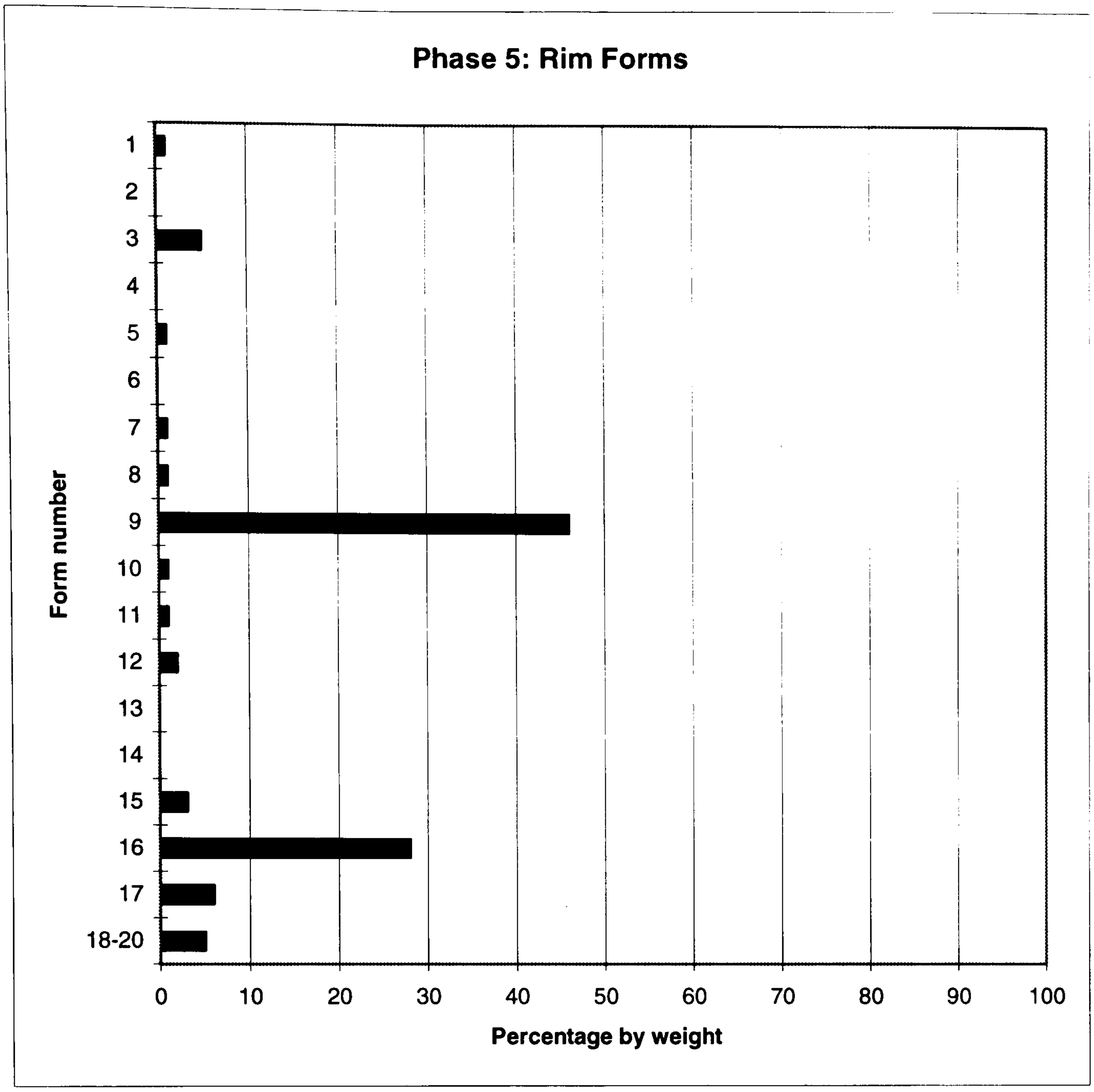


Fig. 4-8: Forms present in Phase 5



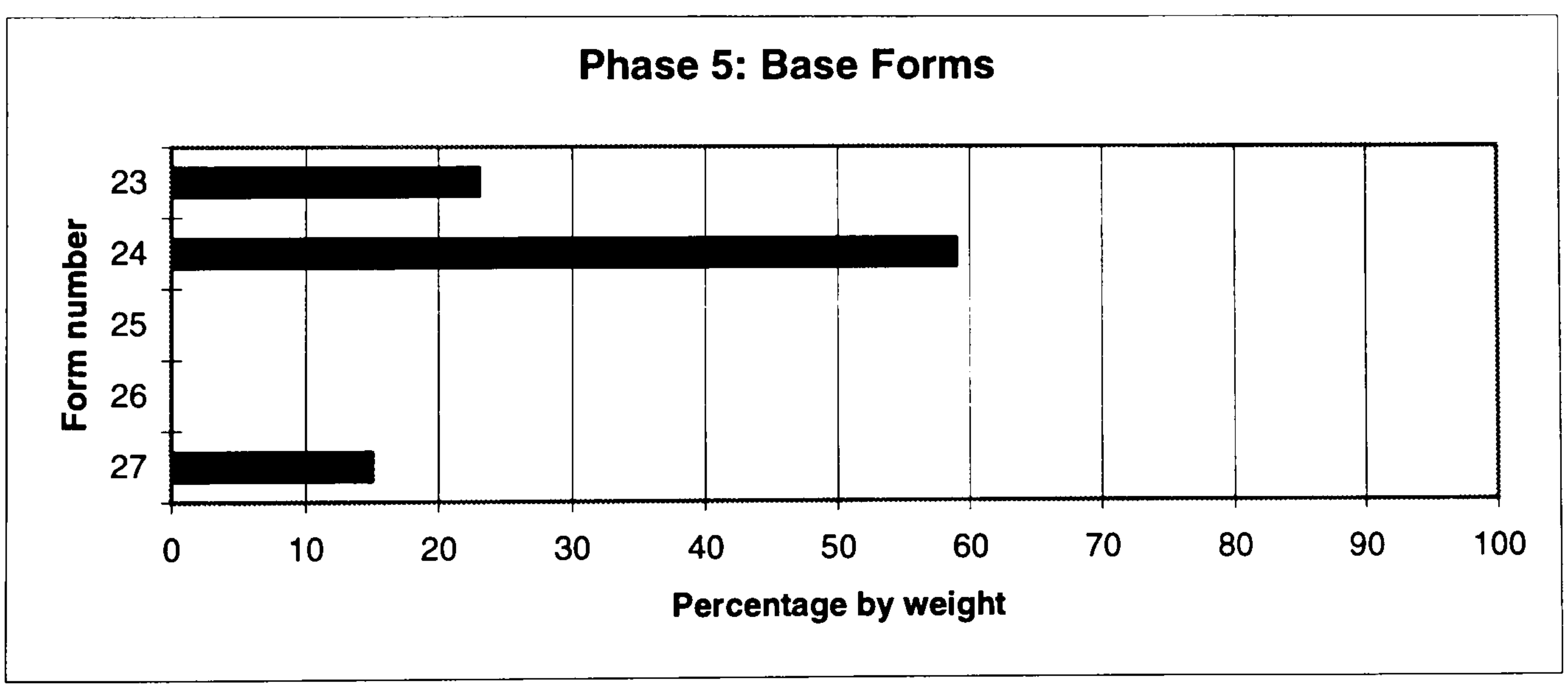
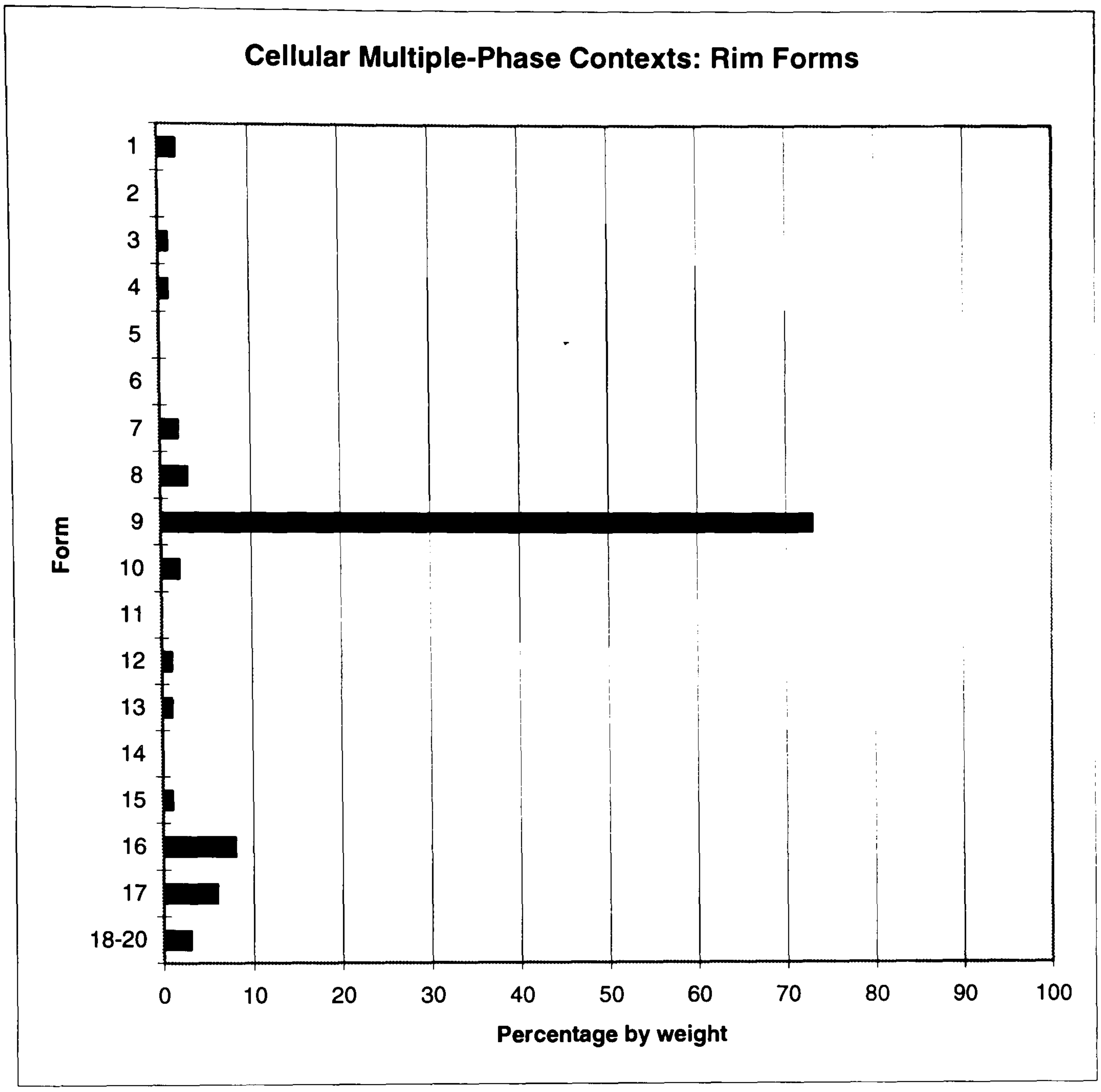


Fig. 4-9: Forms present in Cellular Multiple-phase Contexts



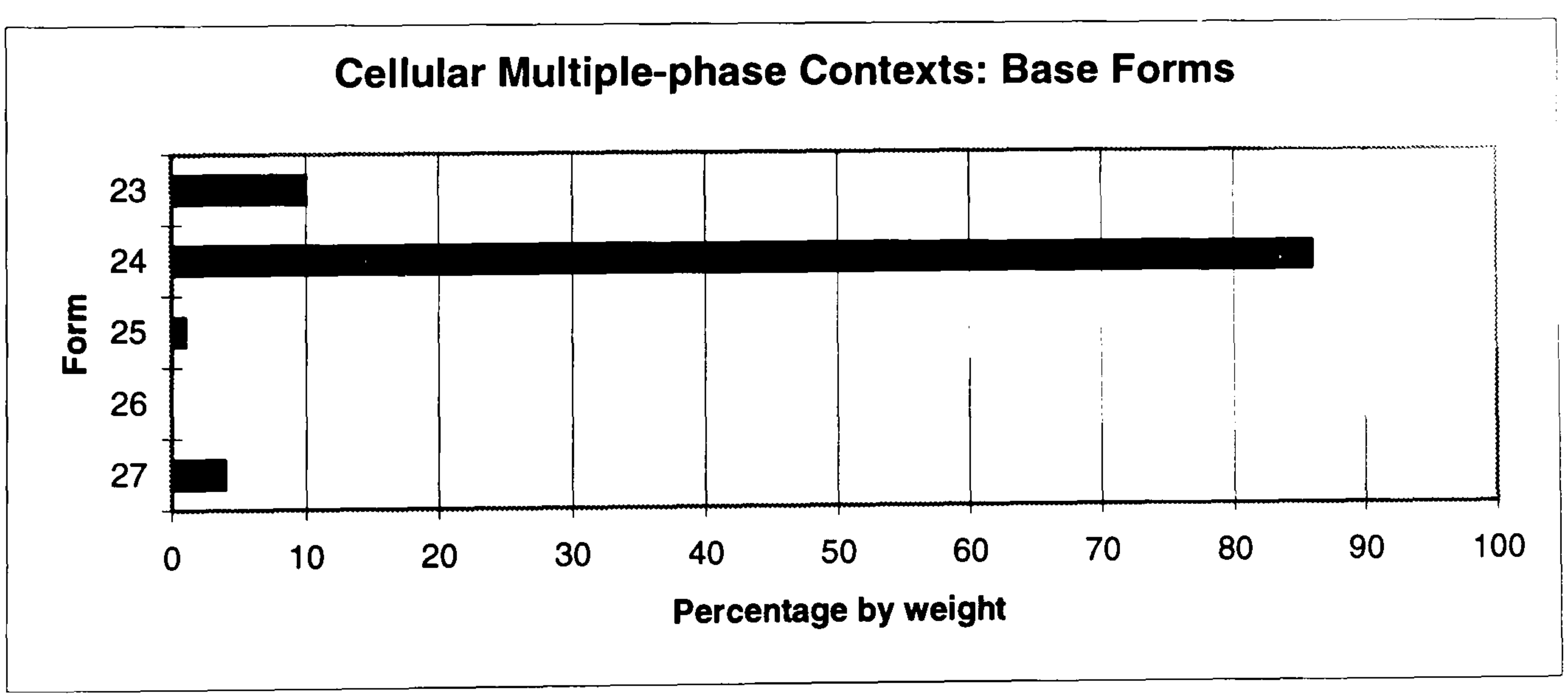
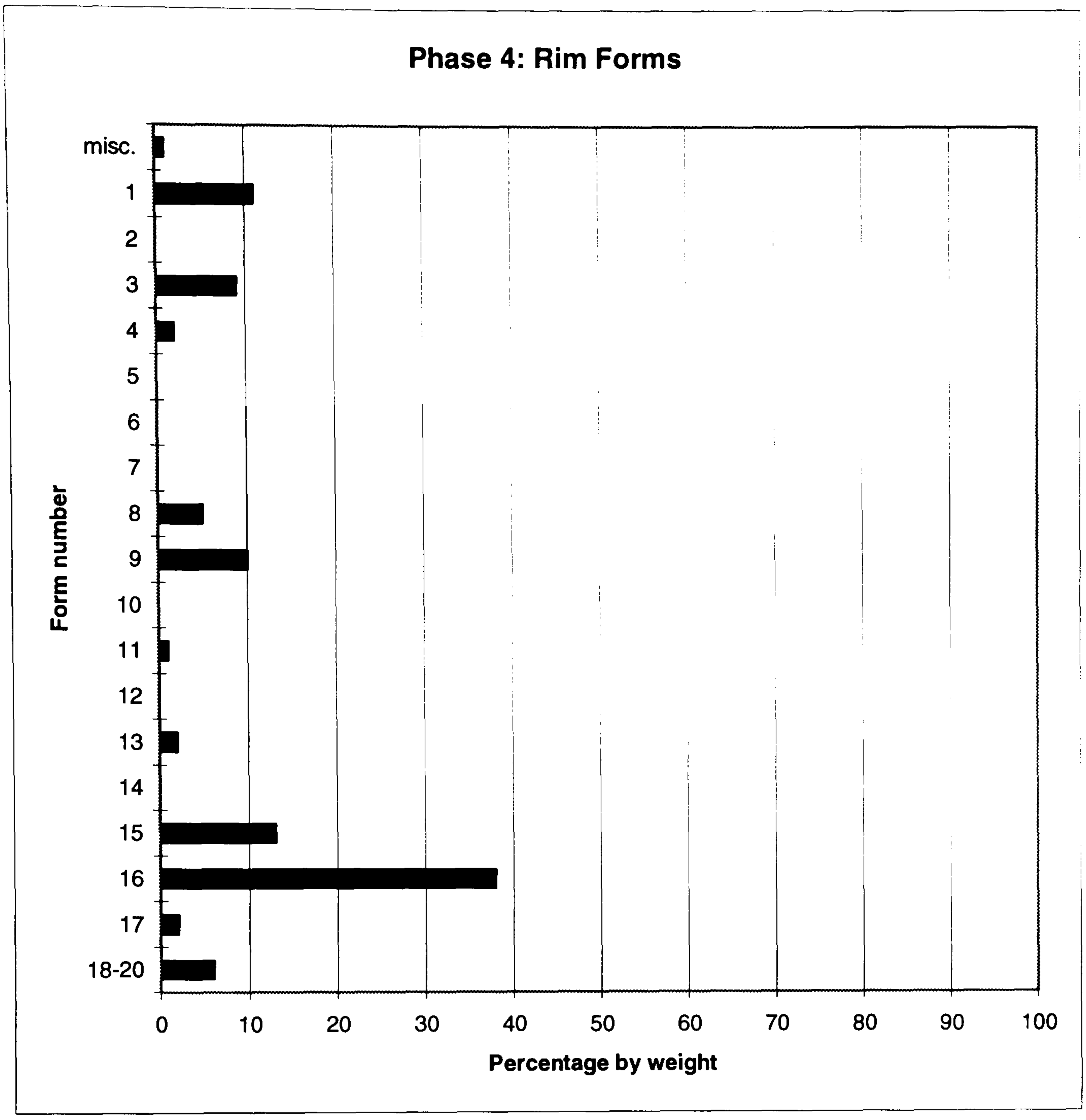


Fig. 4-10: Forms present in Phase 4



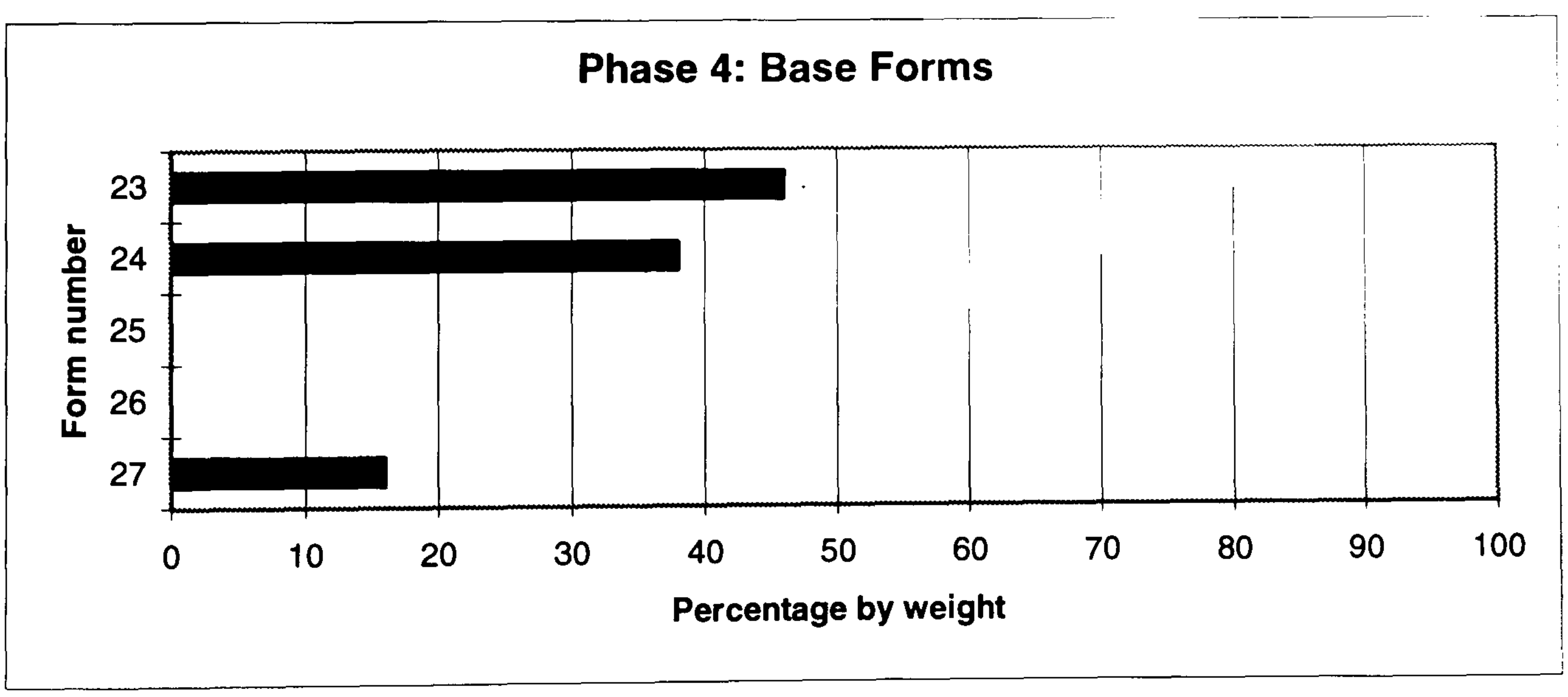
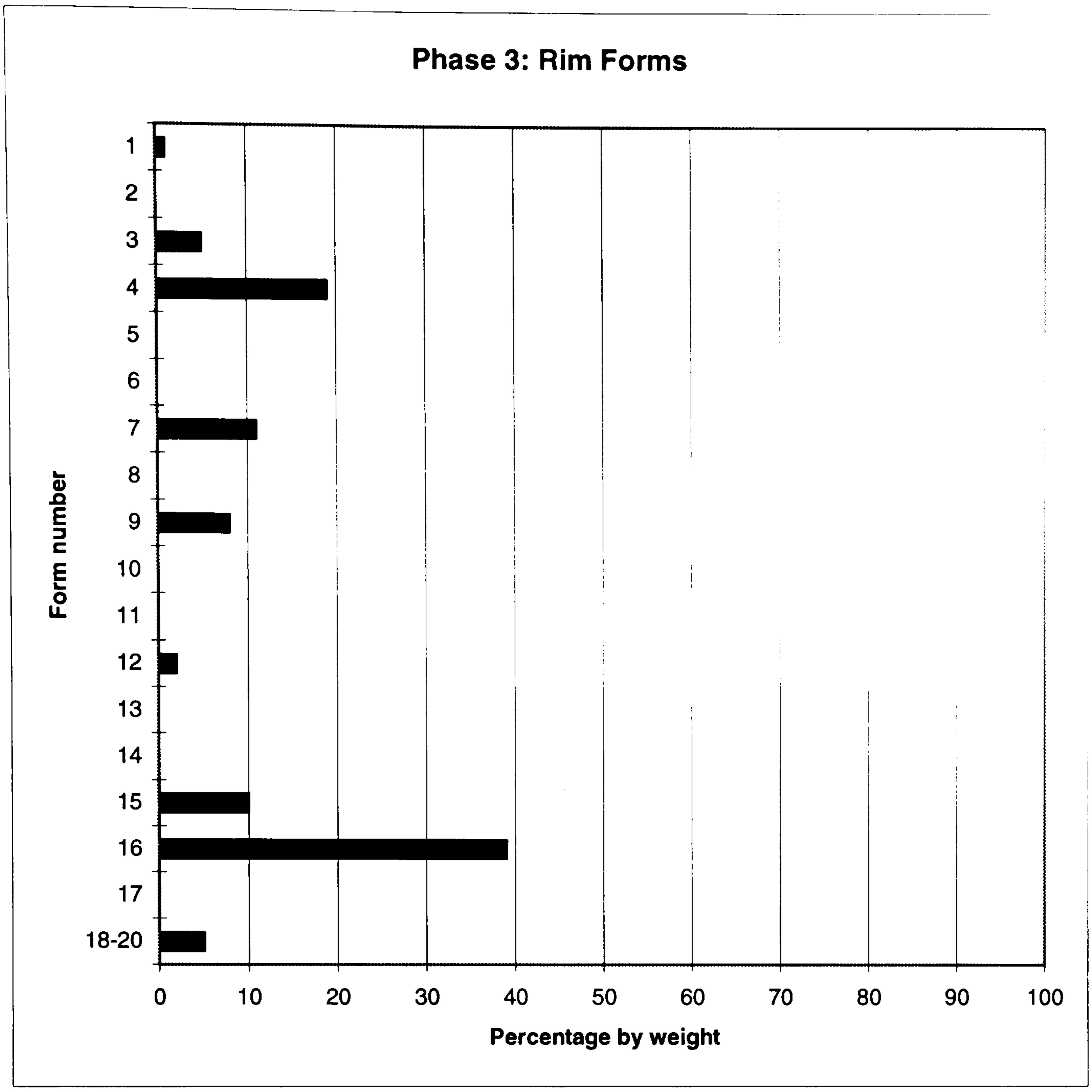


Fig. 4-11: Forms present in Phase 3



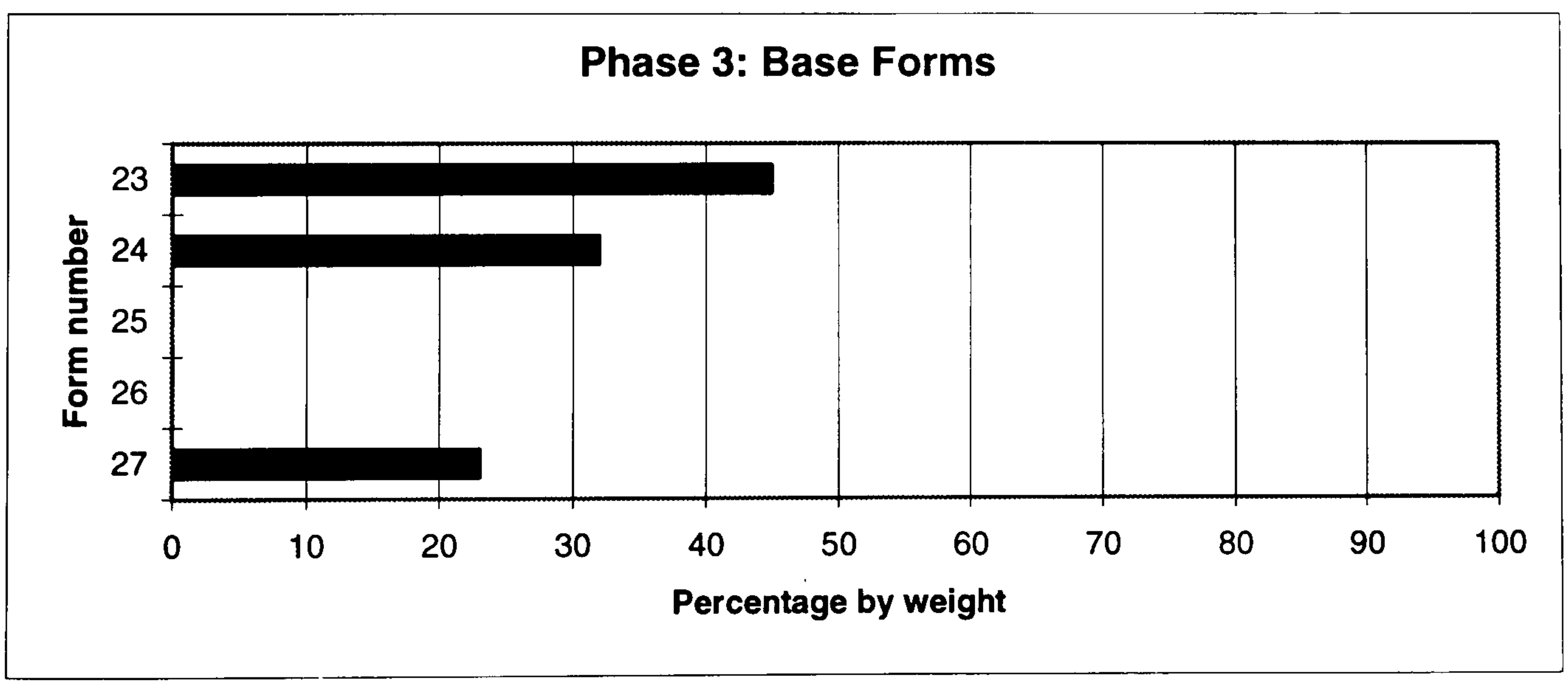
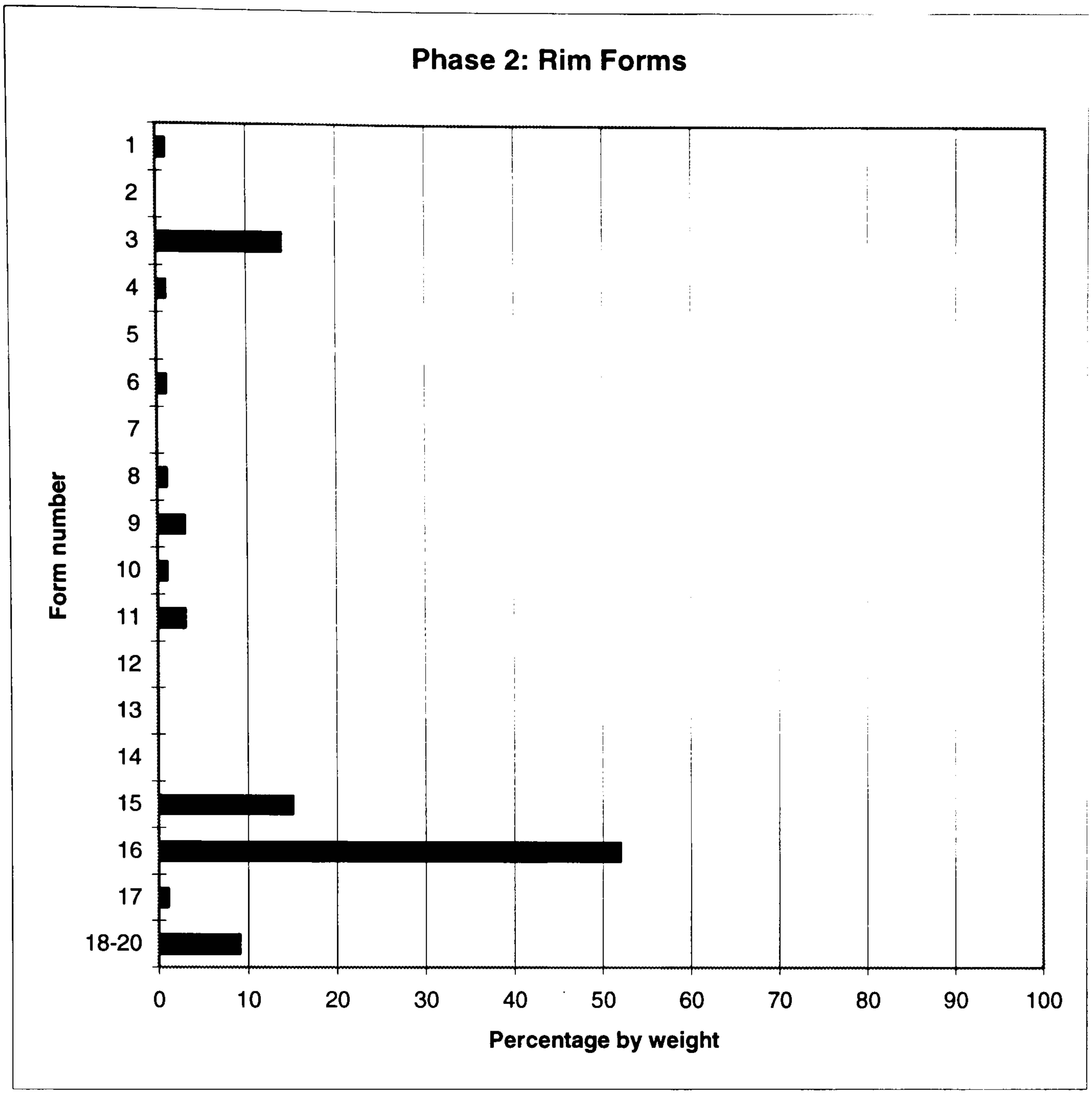


Fig. 4-12: Forms present in Phase 2



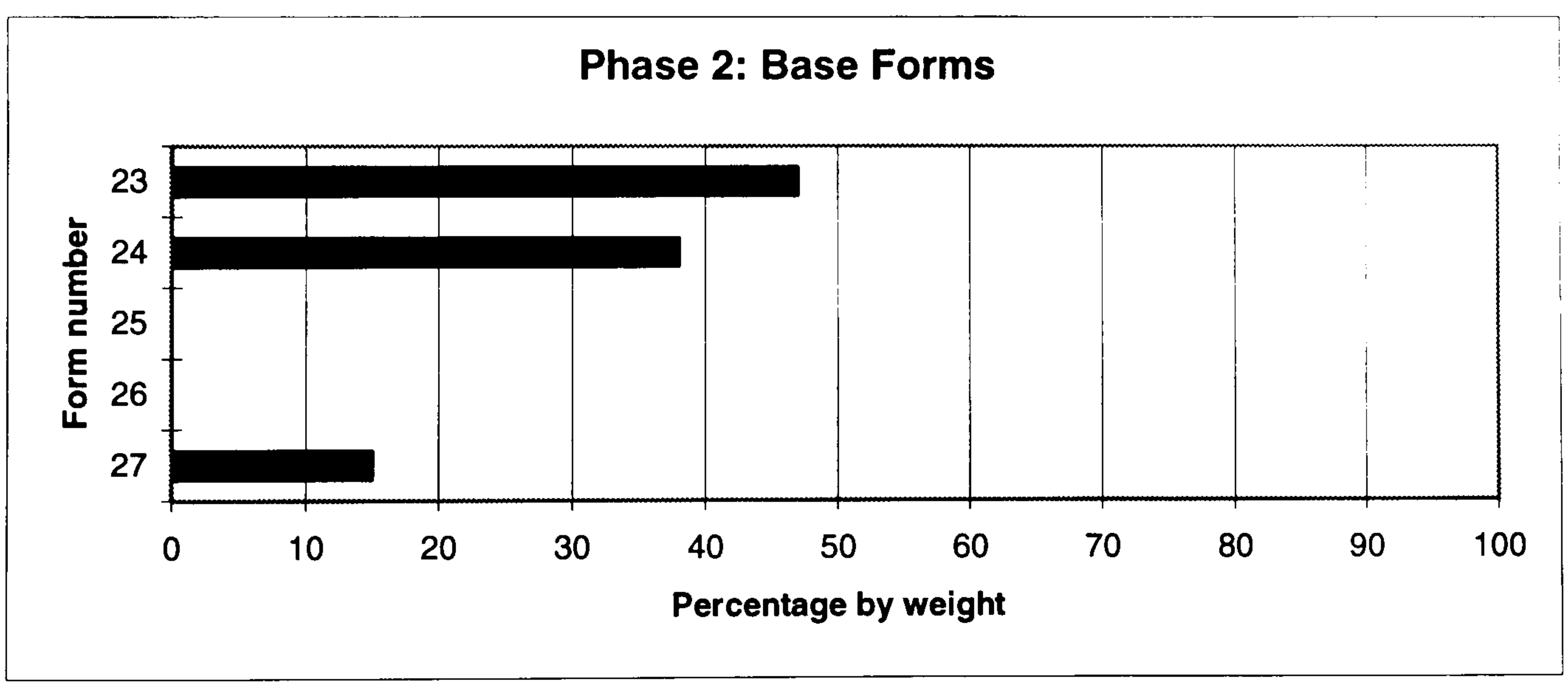
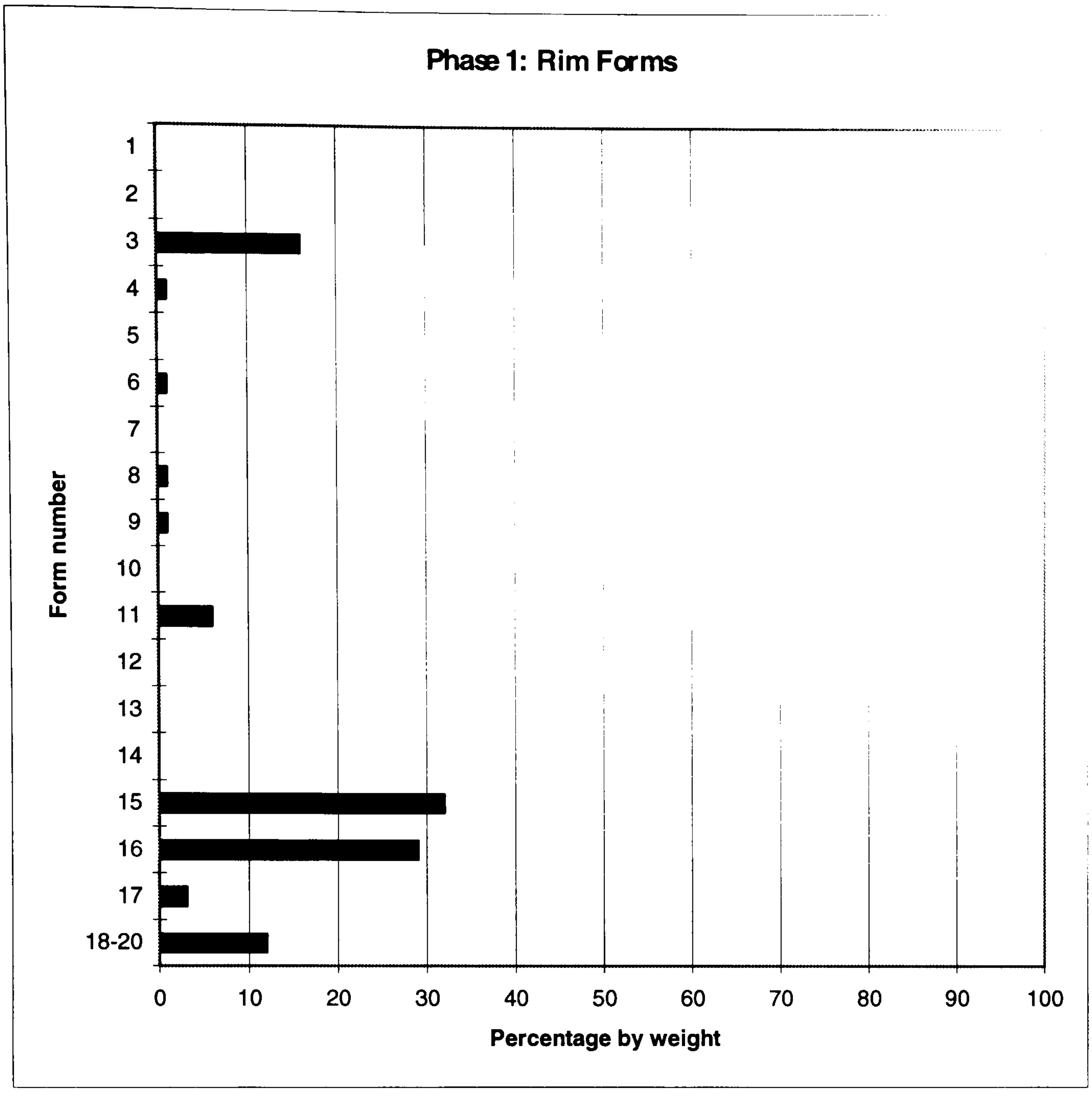


Fig. 4-13: Forms present in Phase 1



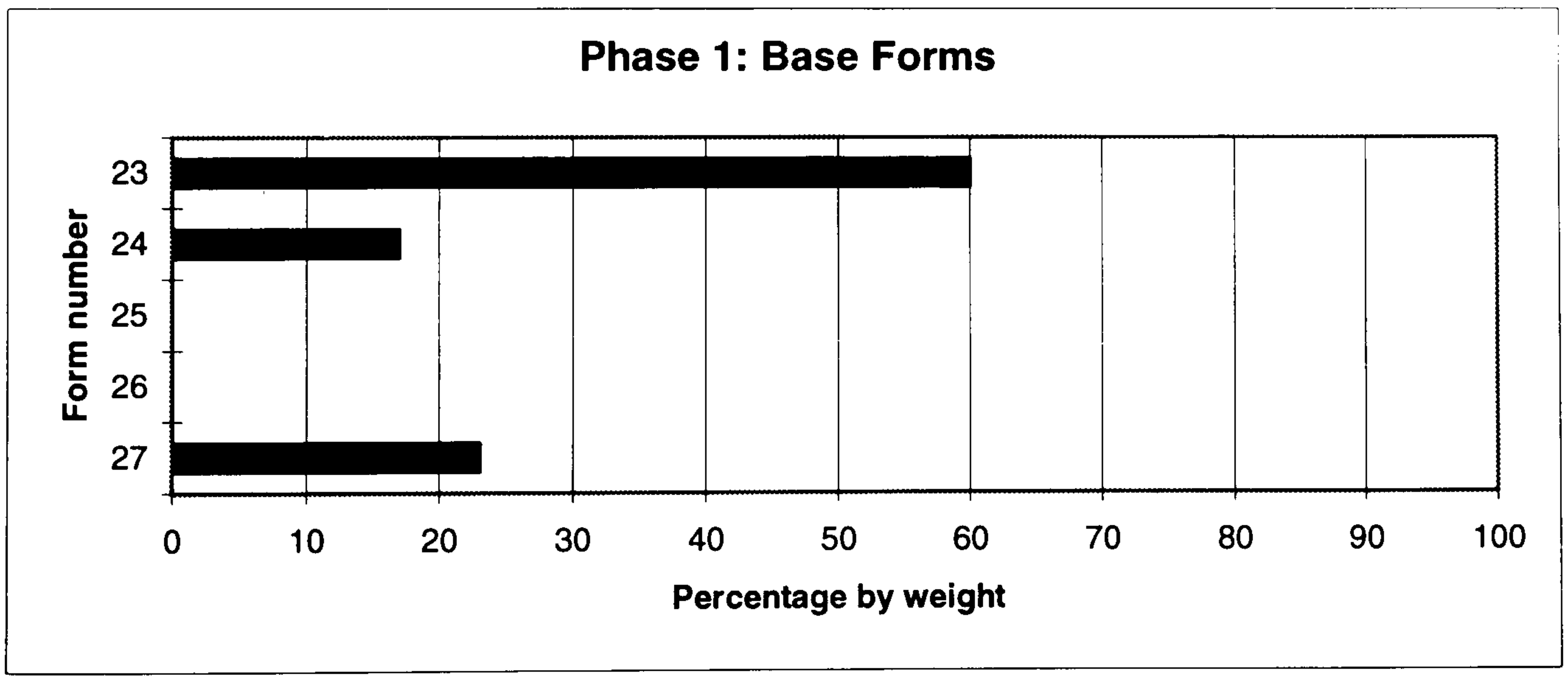
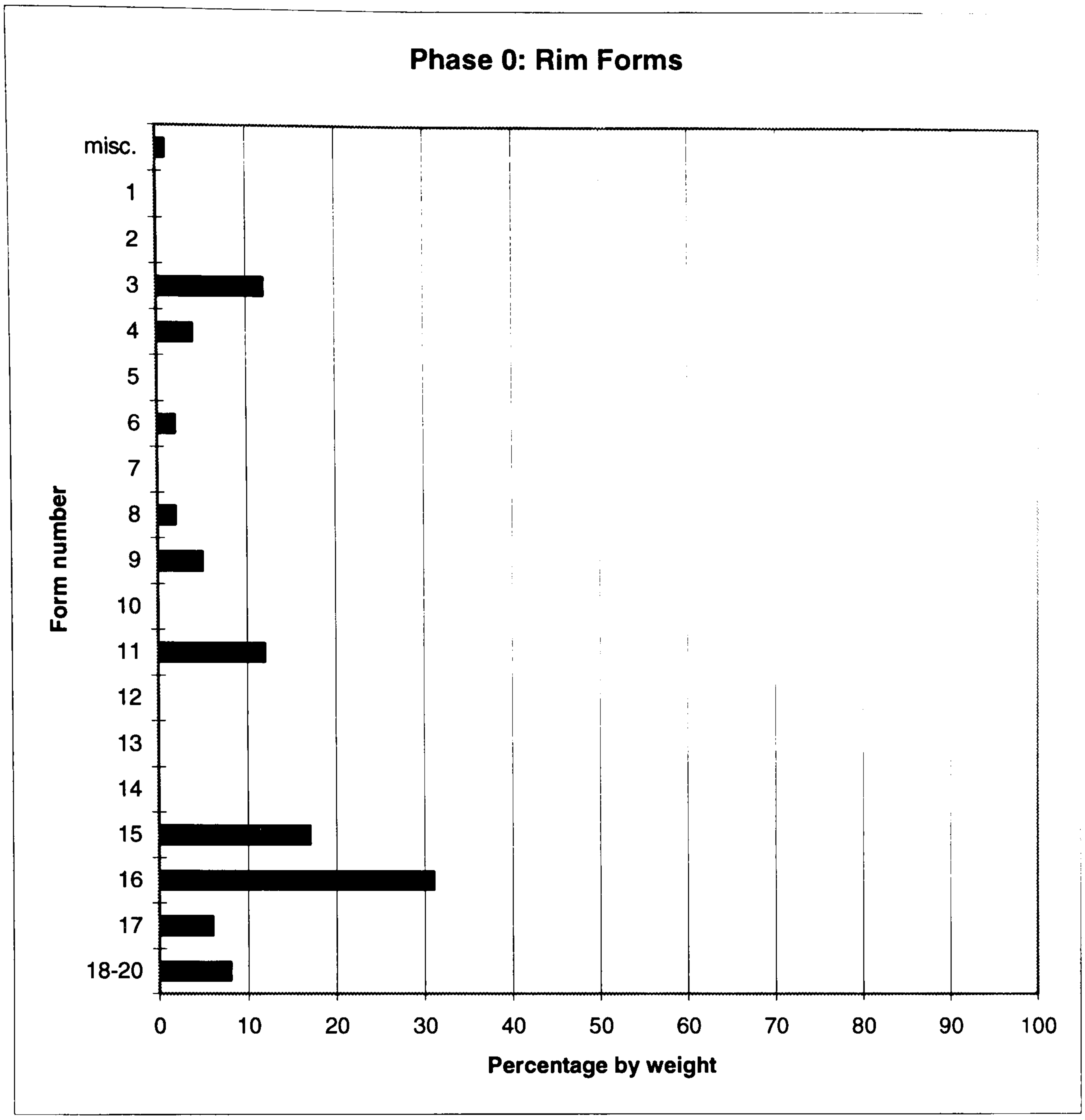


Fig. 4-14: Forms present in Phase 0



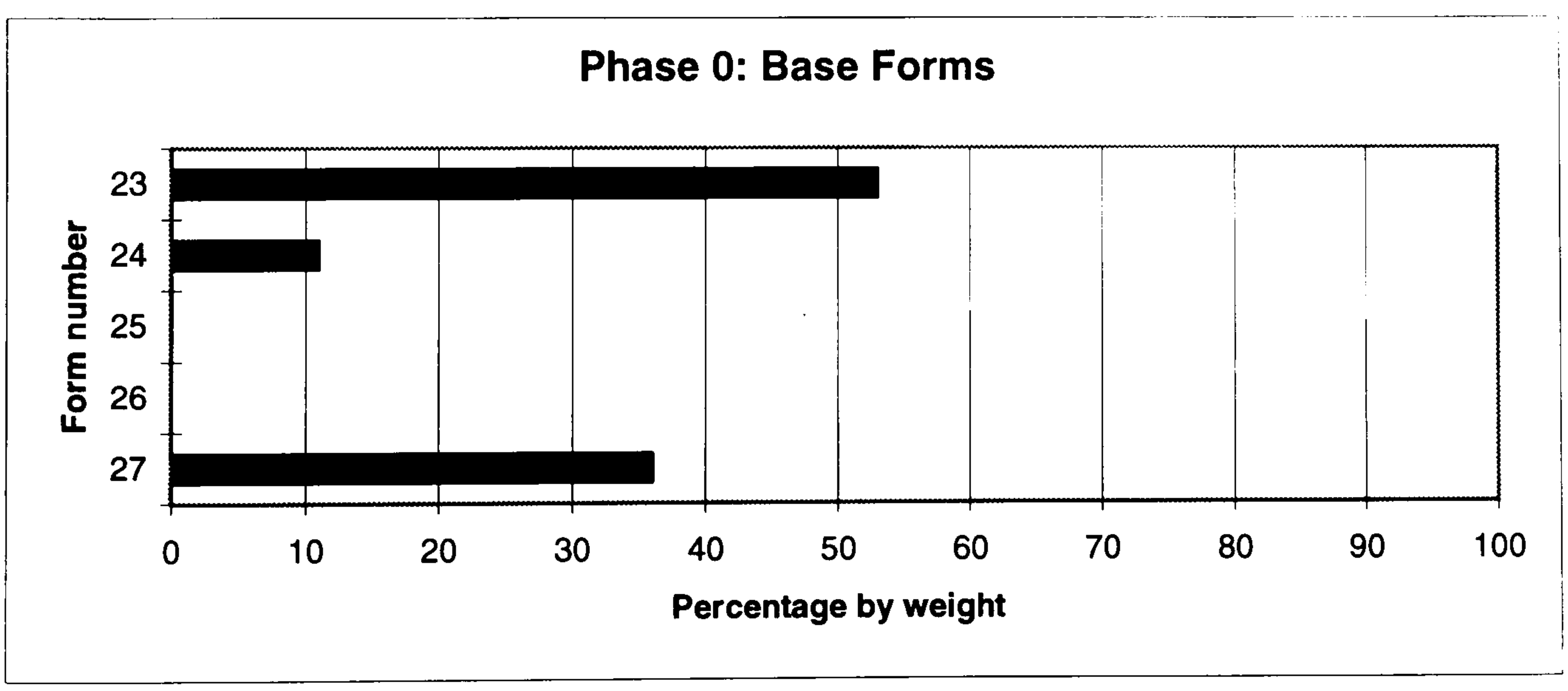
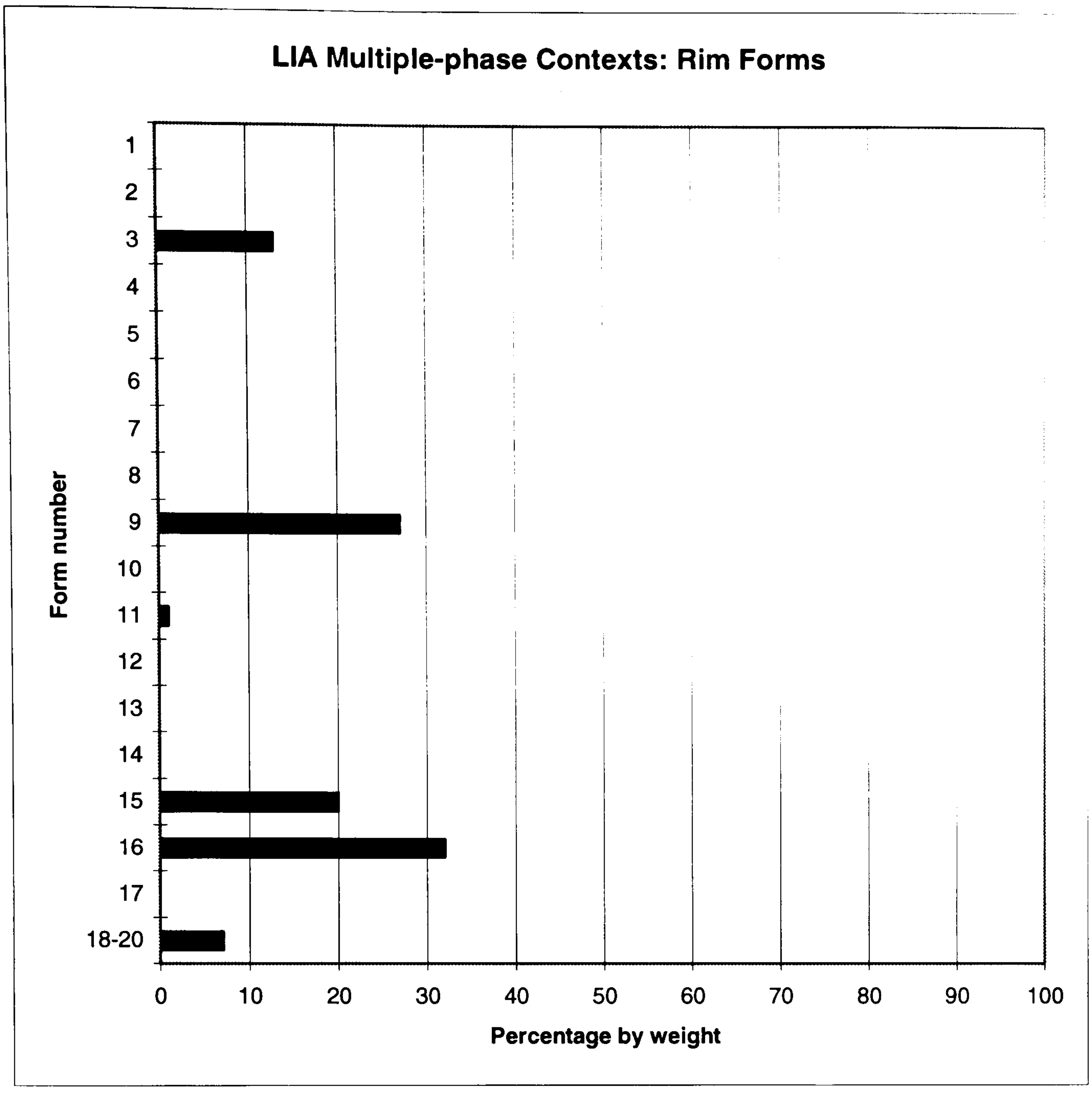


Fig. 4-15: Forms present in LIA Multiple-Phase Contexts



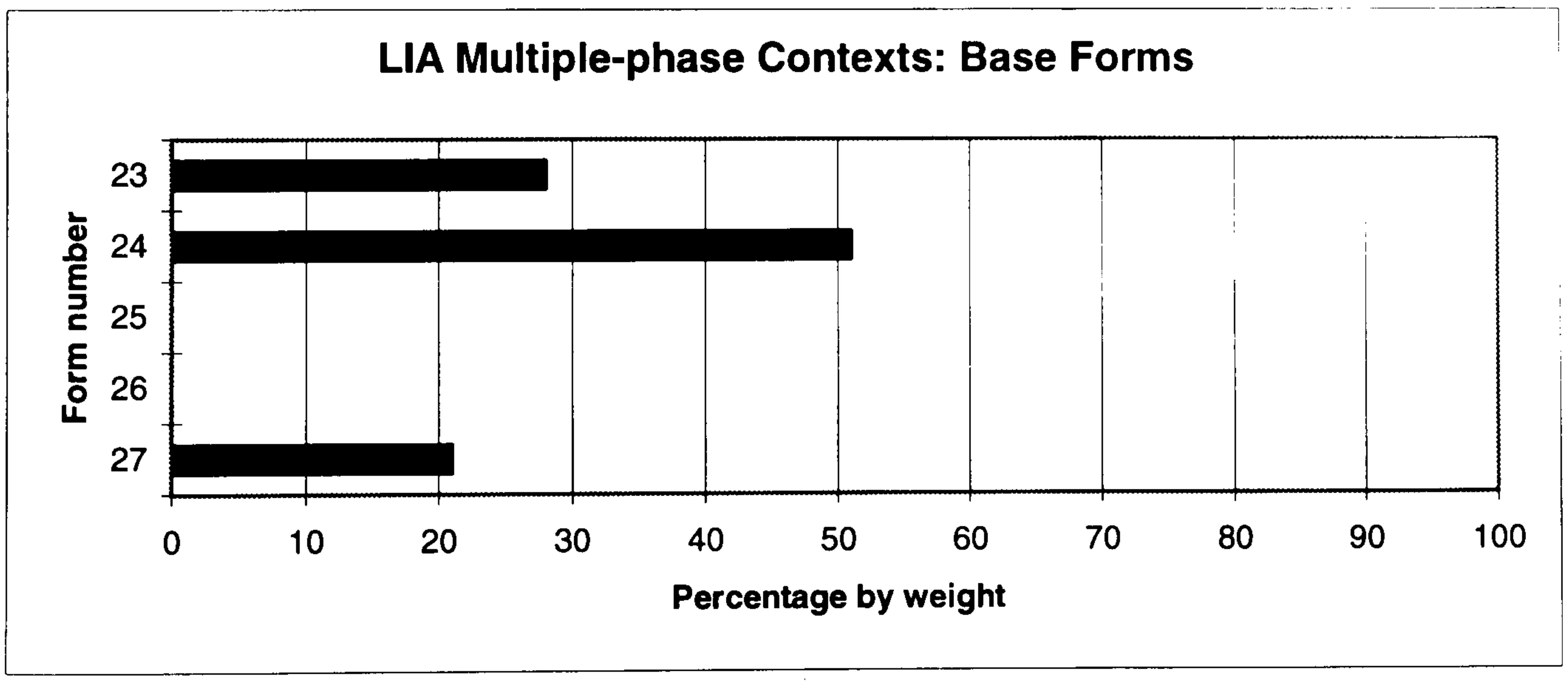
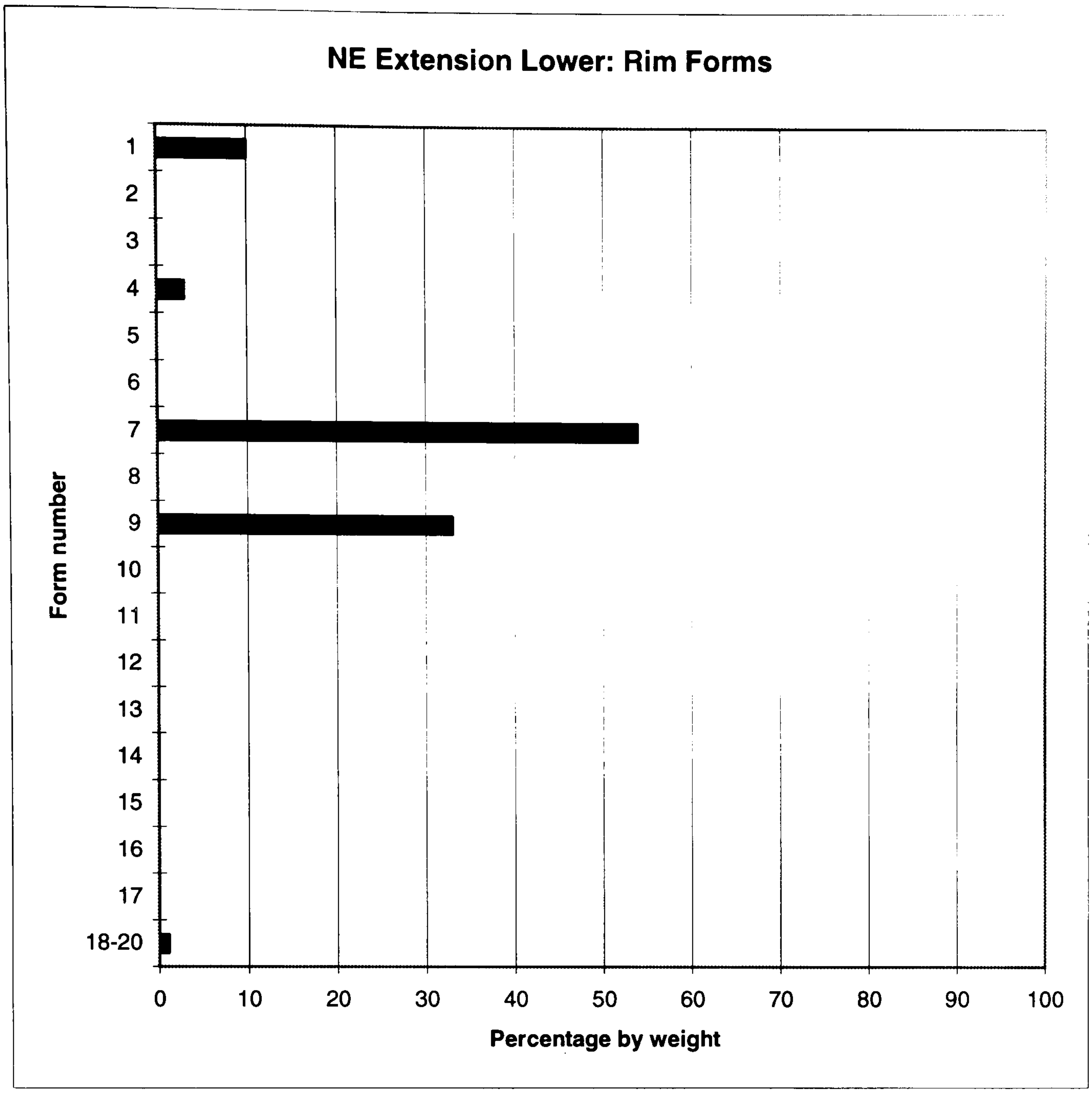


Fig. 4-16: Forms present in NE Extension Lower



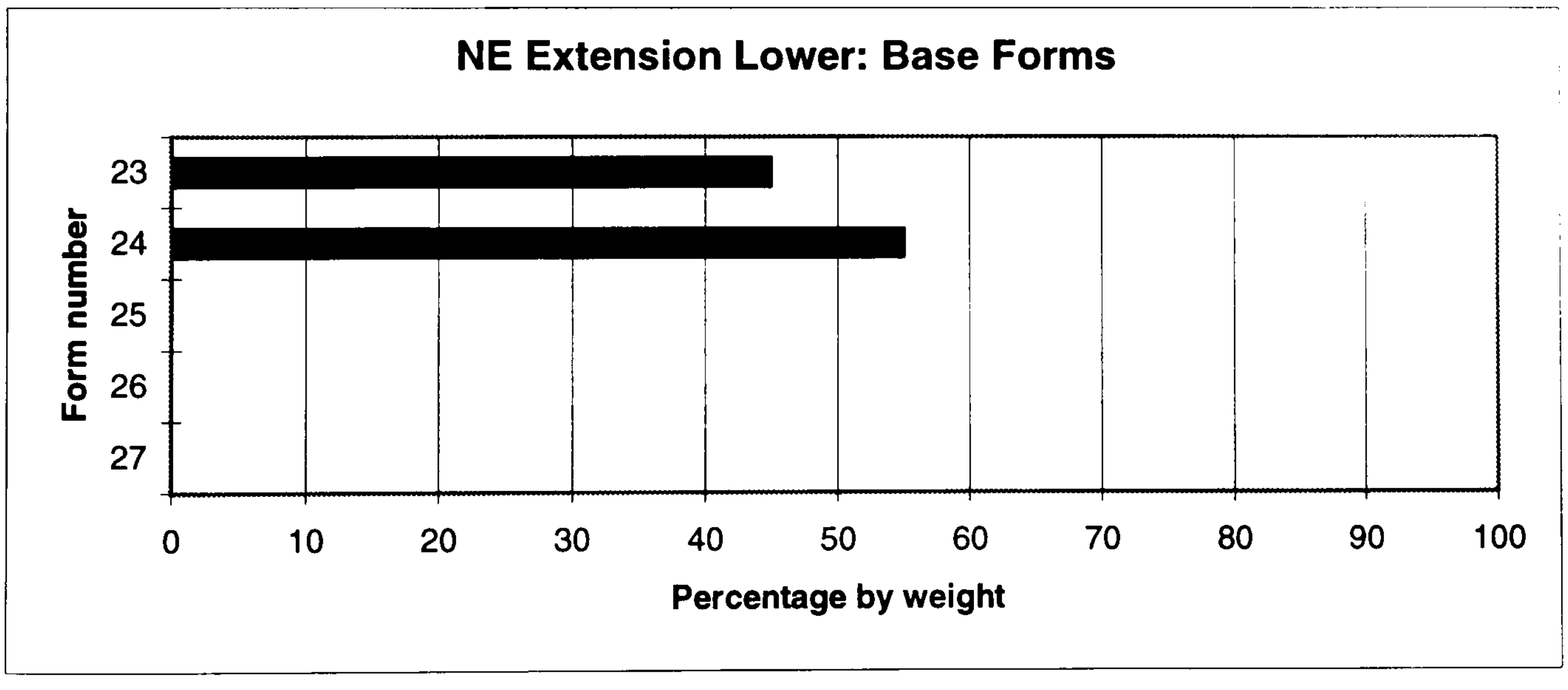
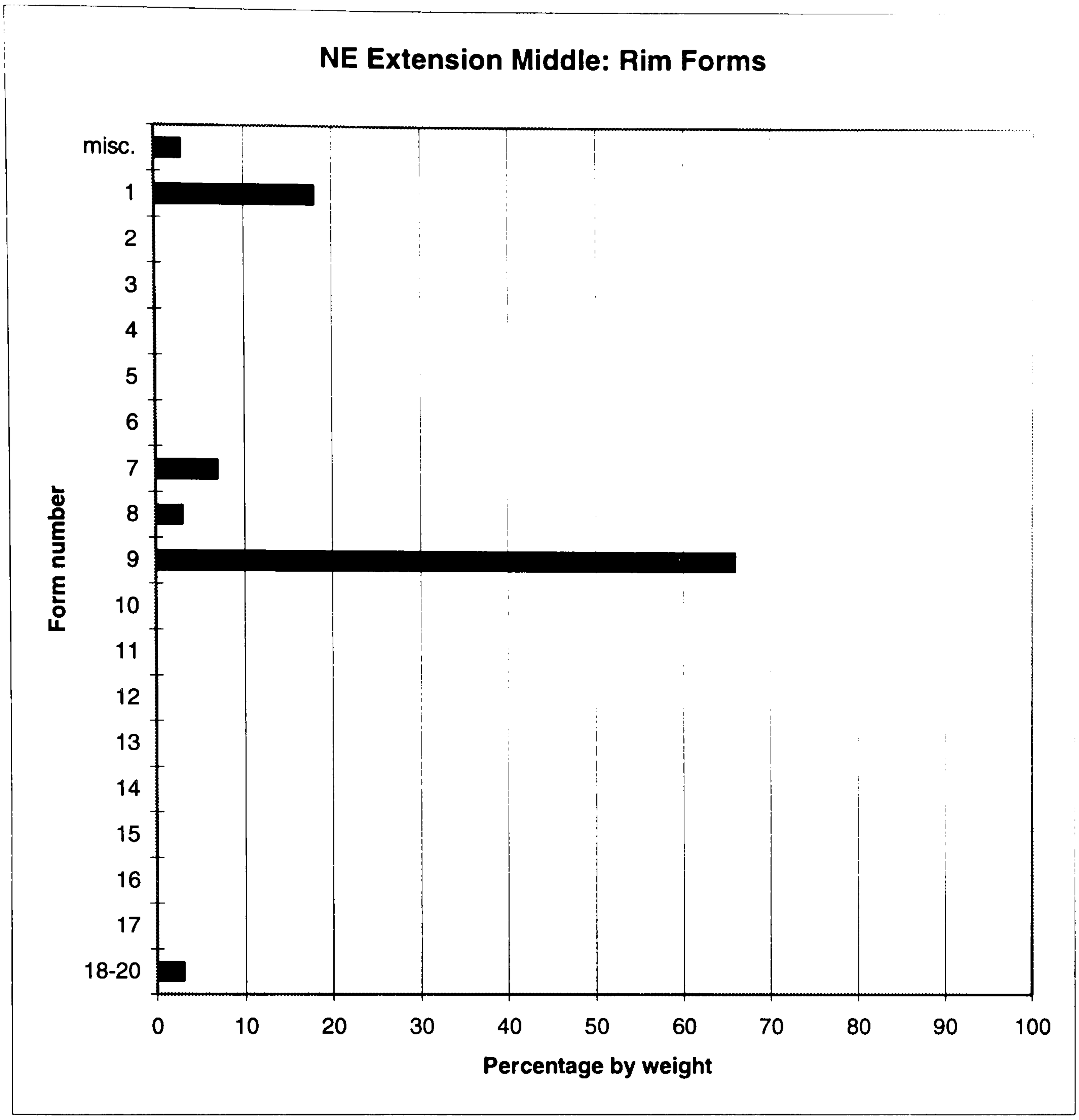


Fig. 4-17: Forms present in NE Extension Middle



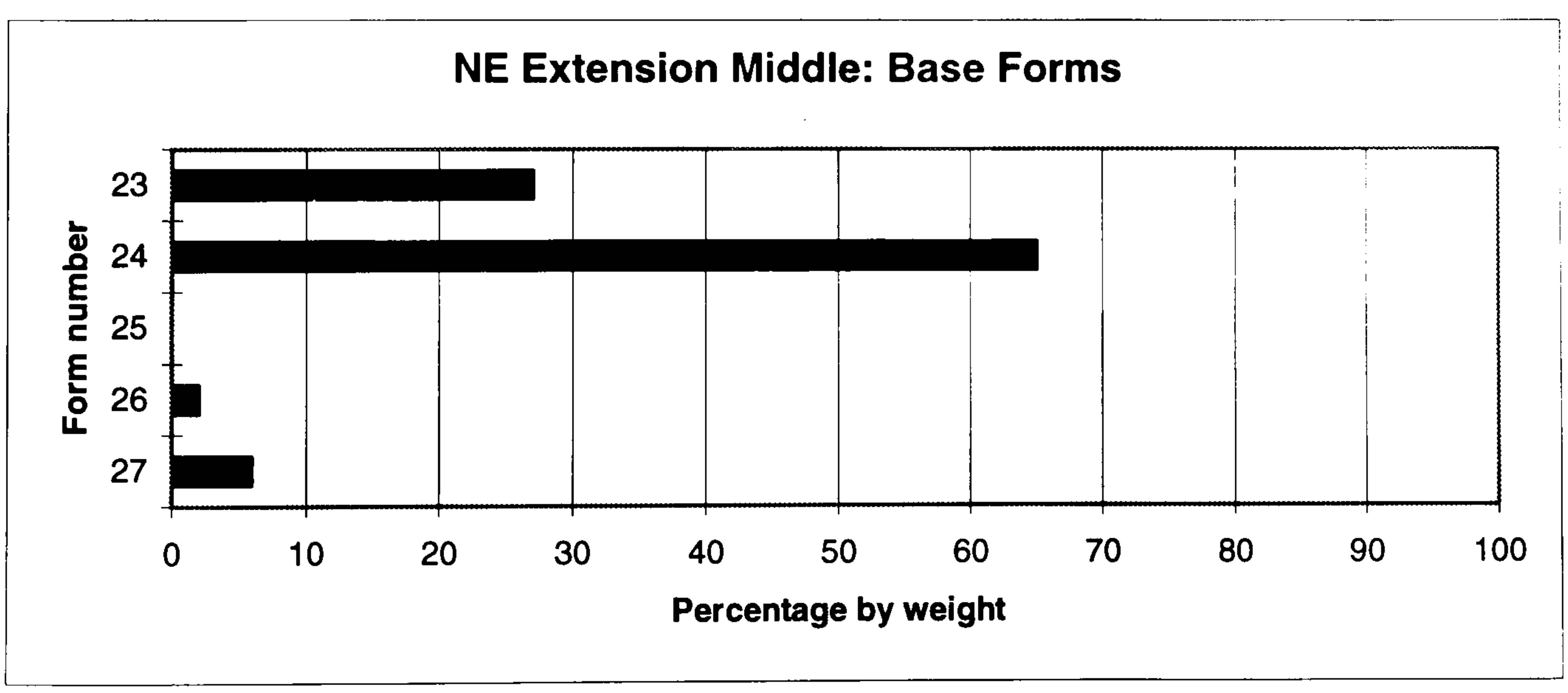
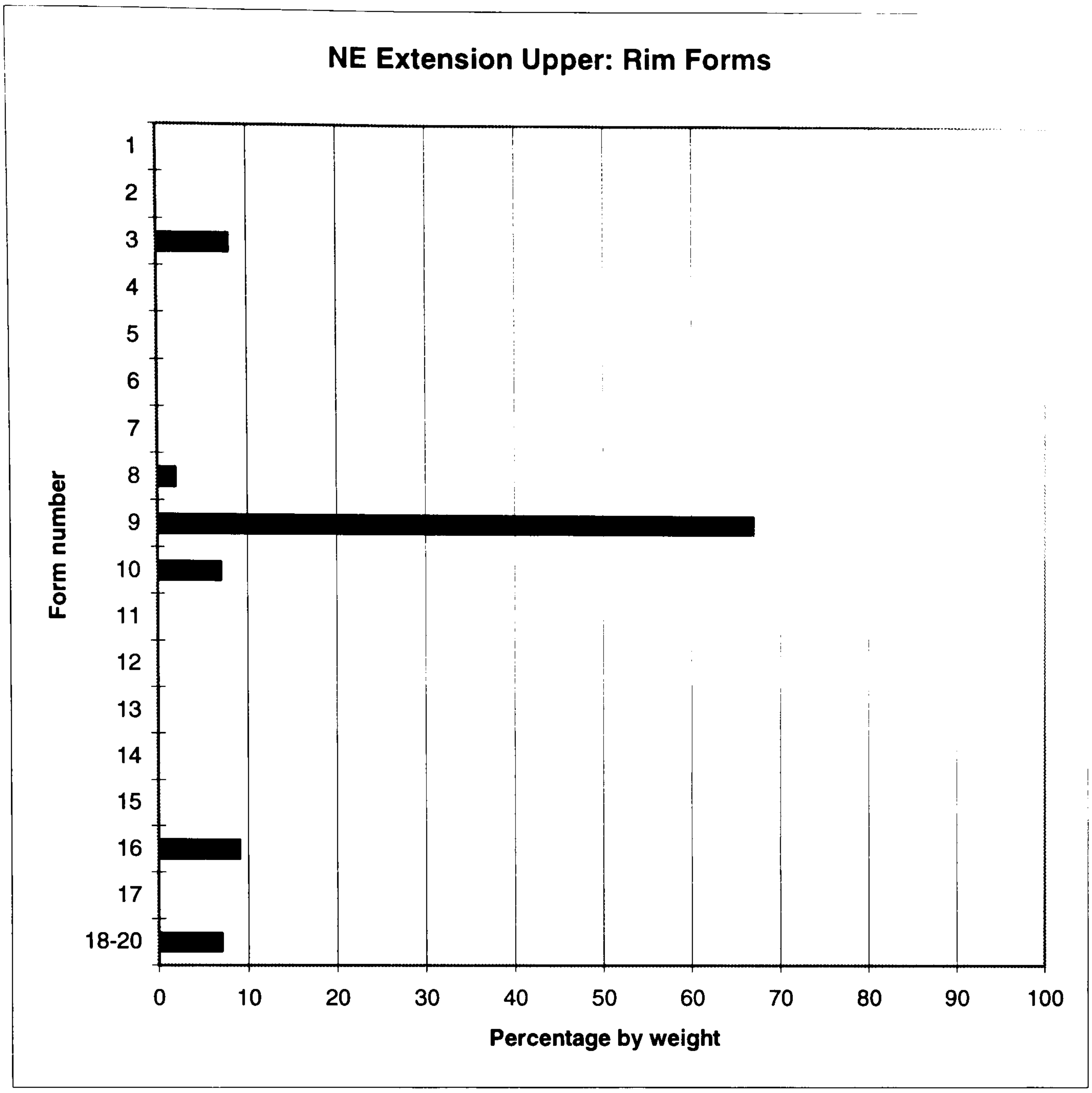


Fig. 4-18: Forms present in NE Extension Upper



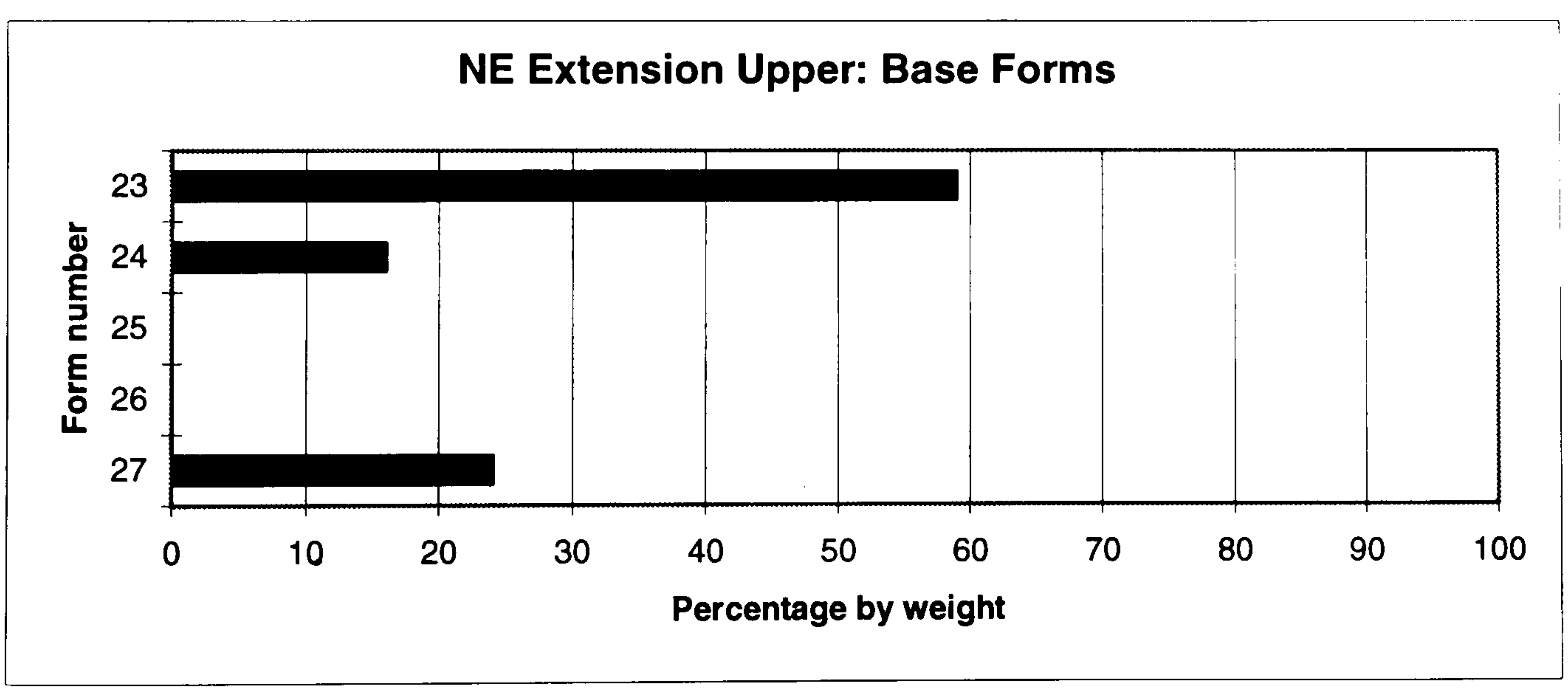
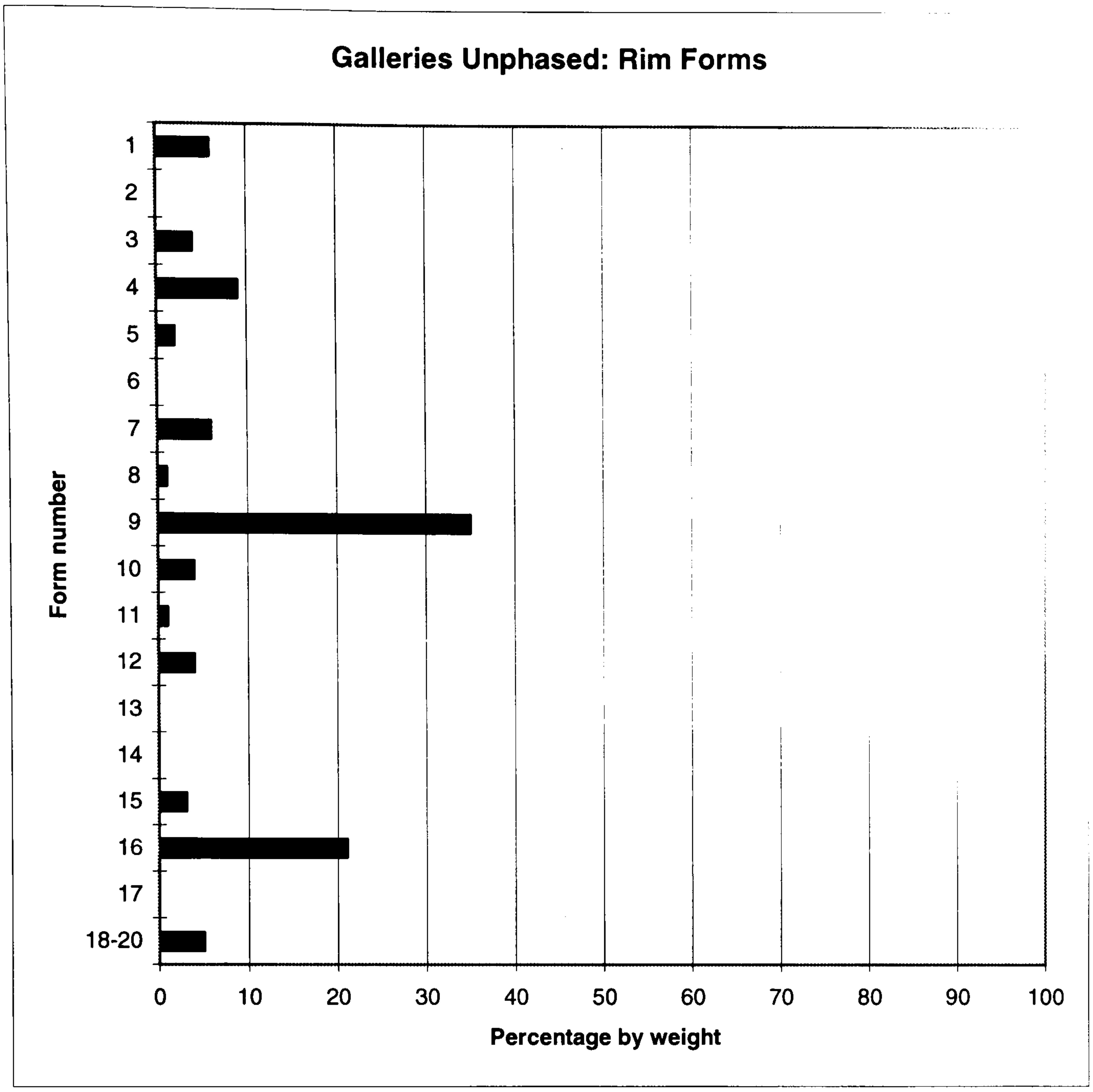


Fig. 4-19: Forms present in Galleries Unphased



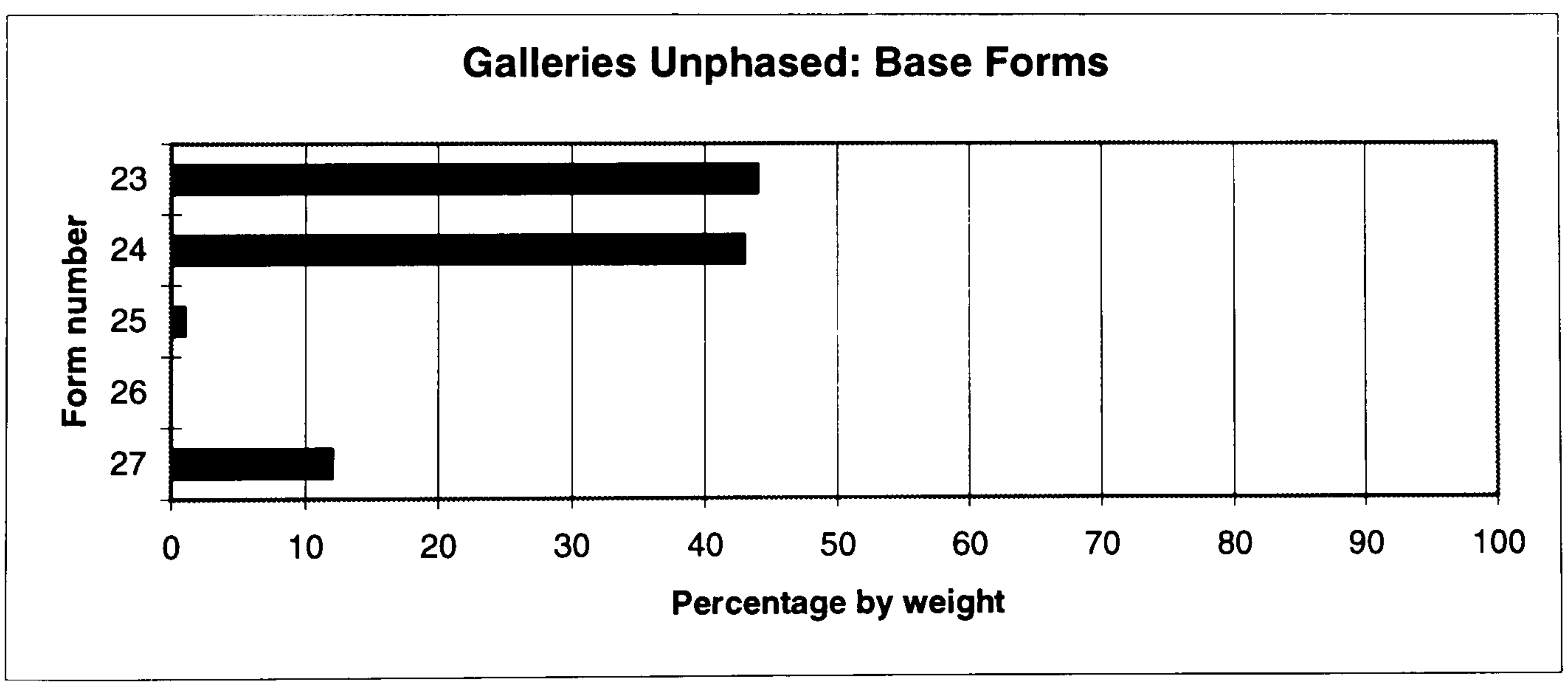
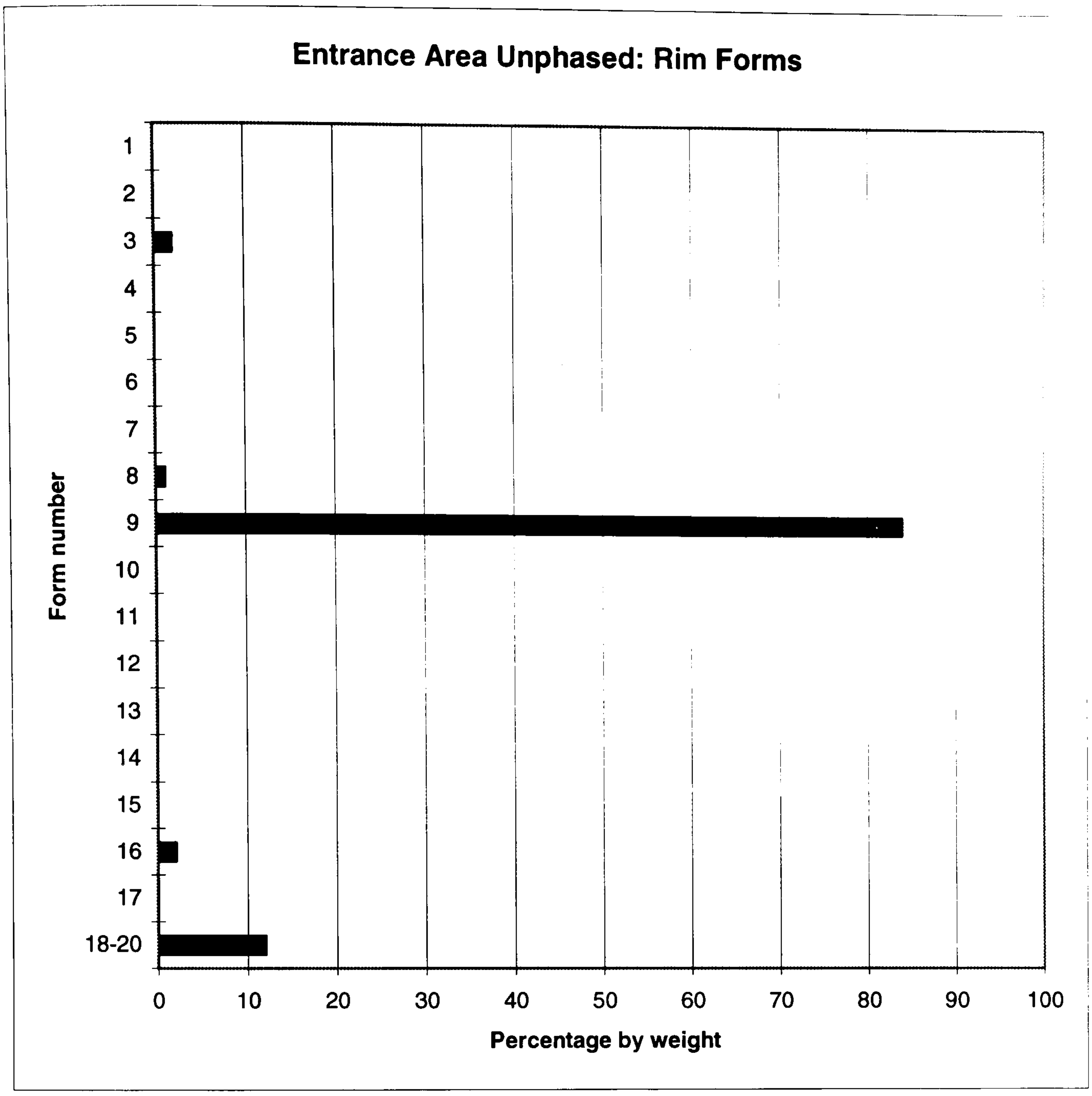
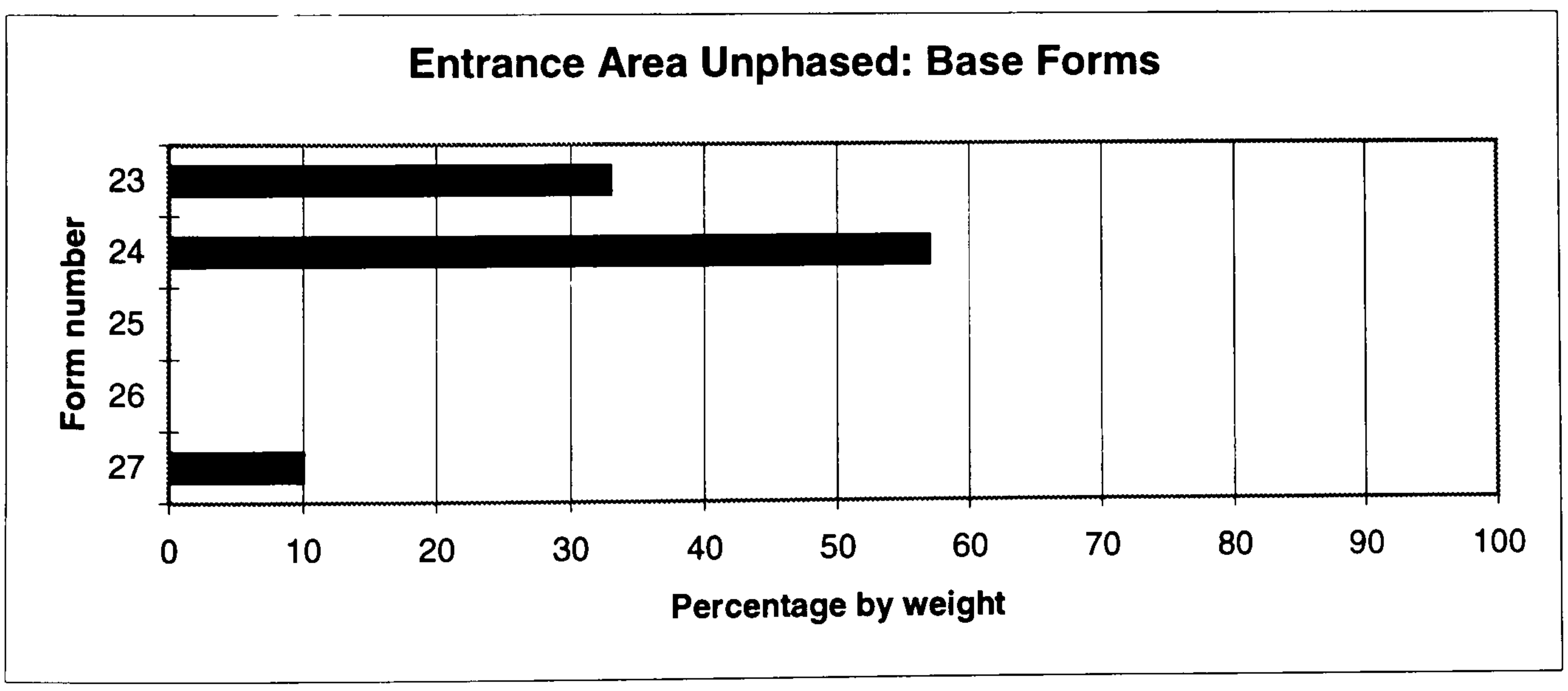


Fig. 4-20: Forms present in Entrance Unphased





5. Characterisation by Form

In this chapter each individual form is discussed in turn and extensive descriptions of the characteristic of each form are provided. This allows each form to be characterised. Firstly information is provided on the number, weight and type of sherds present. The material is divided under four headings for analysis: manufacture, decoration, surface deposits and deposition. These descriptions of forms will allow detailed comparisons to be made between each form. Changes in characteristics between types will be identified and discussion will be made of patterns pertaining to each phase in Chapter 6.

A full catalogue can be found in Appendix 3.

5.1 Forms

5.1.1 Form 1

This form is represented by 79 sherds weighing 2090g in total as 55 individual catalogue entries. The average sherd weight is 26g.

Manufacture

A range of fabric types are present though the single most common fabric is fine with abundant inclusions and vegetal impressions and/or temper visible. Coarse fabrics comprise the minority while medium fabrics are just in the majority. Fabrics with vegetal impressions and/or temper are more common than those without them, by 64% to 36%.

Table 5-1: Fabric types, percentage by weight (total=2090g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	4	5	7	5	6			18	45
Medium	2		4	9	6	8	3	17	49
Coarse					4	2			6
Total	6	5	11	14	16	10	3	35	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Thirty-eight percent of the vessels have no surviving evidence of manufacturing techniques. The vessels are coil built, as evidenced by the presence coil bulges (2%) and coil folds (31%) on the sherd interiors. Examples of laminar fracture are present (11%). Angled coil breaks are present on 5% of the vessels. The rims have been formed by folding (60%). Star cracking is present (7%).

The exterior surfaces have been finished primarily by smoothing (80%) with some fine wiping (35%) and small amounts of burnishing (2%), rough wiping (4%) and scraping (2%). Eleven percent of the vessels have no visible surface finish. The interior surfaces have been finished primarily by smoothing (47%) and finger marking (38%), with smaller amounts of fine wiping (15%) and paddle-and-anvil (2%). Sixteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 5% of the vessels. Seventy-one percent of the vessels exhibit no cracking at all.

By weight, 75% of the sherds have been subjected to an oxidising firing atmosphere and 25% are unoxidised. The most common firing profile is type 1 with 63%, followed by type 8 with 13%, type 3 with 11%, type 13 with 7%, type 2 with 5%, types 4 and 14 with 1% each. Fire cracking is present on 5% of the vessels. Dunting (2%) and spalling (2%) are present.

Rim diameter ranges in size from 14cm to 34cm and is normally distributed with the mode being 22cm, with a small peak at 34cm. Sherd thickness ranges from 6mm to 14mm and is normally distributed. The mode is equally 6mm and 7mm.

Decoration

By weight, 20% of the sherds are not decorated, 5% have impressed and incised decoration together, 11% have incised decoration, 62% have impressed decoration and 2% have channelled decoration. The majority of the motifs are found on the rim exterior (39 individual motifs), with two examples of incised decoration on the body exterior, and one incised and one impressed motif found on the shoulder.

Channelled motifs comprise one example each of Cha.F.ii and Cha.J. Impressed motifs comprise one example each of Imp.A.ii, Imp.H.iii, Imp.H.v.E, Imp.H.iii.E, Imp.H.ii.I, Imp.H.ii.C, two examples each of Imp.A.ii and Imp.G.iv, three examples each of Imp.D and Imp.E, and four examples each of Imp.H.ii and Imp.H.iii.K. Combined impressed and incised motifs comprise Imp.A.i with Inc.L.ii and Inc.E.i, Imp.H.iii with Inc.C.iii, and Imp.H.iii.R with Inc.G. Combined incised motifs comprise Inc.B.iii with Inc.A.iii, Inc.E.i with Inc.C.iii, and Inc.O.iii with Inc.E.i. Incised motifs comprise an example each of Inc.E.i, Inc.J.iii, Inc.N.iii, Inc.O.i, Inc.O.iii, Inc.Q.i, and an example of either Inc.T or Inc.L.ii.

Surface Deposits

By weight, 19% of the sherds have no visible surface deposits, 46% have charred residue, 33% have slight sooting, and 2% have other types of deposit.

Condition and Sherd Size

By weight, 14% of the sherds are of average condition, 71% are abraded and 15% are very abraded. Maximum sherd dimension ranges from 30mm to 170mm and is normally distributed. The mode is 40mm.

5.1.2 Form 2

This form is represented by 7 sherds weighing 532g in total as 5 individual catalogue entries. The average sherd weight is 76g.

All of the sherds were recovered from contexts associated with NE Gallery Phase 10.

Manufacture

Only three different fabric types are present and due to the small size of the assemblage it is difficult to draw any firm conclusions. However, all of the fabrics have vegetal impressions and/or temper visible and there are no coarse fabrics.

Table 5-2: Fabric types, percentage by weight (total=532g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine				34					34
Medium				43		23			66
Coarse									
Total				77		23			100

N = no vegetal markings or temper V = vegetal temper and/or markings

Twenty percent of the vessels have no surviving evidence of manufacturing techniques. The rims have been fashioned as separate sections (80%). Coil folds are present (60%) on sherd interiors. The exterior surfaces have been finished by smoothing (100%) and fine wiping only (80%). The interior surfaces have been finished by finger marking (100%) and fine wiping only (60%). Star cracks and drying cracks are present on 20% of the vessels. Forty percent of the vessels exhibit no cracking at all.

All of the sherds have been subjected to an oxidising firing atmosphere. The most common firing profile is type 1 with 88% followed by type 3 with 12%. Fire cracking and spalling are present on 20% of the vessels.

Rim diameter ranges from 25cm to 28cm. The mode is 28cm. Sherd thickness ranges from 7mm to 9mm. The mode is 8mm.

Decoration

All of the sherds have impressed decoration. All of the motifs are found on the rim exterior. These motifs comprise three examples of Imp.H.v.E and two examples of Imp.H.v.I.

Surface Deposits

By weight, 72% of the sherds have no visible surface deposits while 28% have slight sooting.

Condition and Sherd Size

By weight, 67% of the sherds are abraded and 33% are very abraded. Maximum sherd dimension ranges from 60mm to 120mm. The mode is 90mm.

5.1.3 Form 3

This form is represented by 274 sherds weighing 3184g in total as 262 individual catalogue entries. The average sherd weight is 12g.

Manufacture

A range of fabric types are present with the most common single fabric being coarse with abundant inclusions and no vegetal impressions and/or temper present. Coarse fabrics just form the majority. Fabrics without vegetal impressions and/or temper are more common than those with them, by 64% to 36%. Fabrics with moderate inclusions are most frequent.

Table 5-3: Fabric types, percentage by weight (total=3184g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	1	<1	2	5	<1				8
Medium	3	<1	15	3	13	2	7	2	45
Coarse	1	1	8	4	11	3	16	3	47
Total	5	1	25	12	24	5	23	5	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Eighty-eight percent of the vessels exhibit no surviving evidence of manufacturing techniques. Angled coil breaks (1%) are less common than tongue-and-groove coil breaks (6%). One example of a coil bulge (less than 1%) is present on an interior surface. The rims are either fashioned as separate sections (3%) or are formed by folding (5%). Laminar fracture is present on 4% of the vessels. Star cracking is present on 6% of the vessels.

The exterior surfaces have been finished primarily by roughening (37%), with smoothing (24%) and finger marking (24%) present along with smaller amounts of fine wiping (17%), rough wiping (13%) and very coarse wiping (2%). Eight percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (31%) and finger marking (32%), with fine wiping (10%), roughening (10%) and rough wiping (7%) also present, with small amounts of very coarse wiping (less than 1%) and paddle-and-anvil (less than 1%). Sixteen percent of the vessels have no visible exterior surface finish. Drying cracks are present on 12% of the vessels. Seventy-three percent of the vessels exhibit no cracking at all.

By weight, 18% of the sherds have been subjected to an oxidising firing atmosphere, 79% are unoxidised and 3% are irregularly fired. The most common firing profile is type 8 with 41%, followed by type 3 with 16%, type 1 with 11%, type 13 with 10%, type 12 with 9%, type 14 with 6%, type 2 with 4%, type 4 with 2%, and types 5, 6 and 9 with <1% each. Fire cracking is present on 4% of the vessels. An example of spalling is present (less than 1%). Dunting is present on 2% of the vessels. A network of fine cracks is present on 1% of the vessels.

Rim diameter ranges from 10cm to 29cm and is normally distributed. The mode is 25cm, with a smaller peak around 17cm-19cm. Sherd thickness ranges from 3mm to 13mm and is normally distributed. The mode is 6mm.

Decoration

By weight, 95% of the sherds are not decorated and 5% have impressed decoration. The motifs are found on the rim exterior and comprise Imp.H.ii.C and Imp.H.ii.

Surface Deposits

By weight, 39% of the sherds have no visible surface deposits, 36% have charred residue, 23% have slight sooting and 2% have other types of deposit.

Condition and Sherd Size

By weight, 19% of the sherds are of average condition, 63% are abraded and 18% are very abraded. Maximum sherd dimension ranges from 30mm to 120mm. The mode is 40mm.

5.1.4 Form 4

This form is represented by 79 sherds weighing 1315g in total as 52 individual catalogue entries. The average sherd weight is 17g.

Manufacture

There are a range of fabric types present with the single most common fabric being fine with sparse inclusions and vegetal impressions and/or temper present. Fine fabrics comprise the majority. There are no fine fabrics with abundant inclusions and no coarse fabrics with sparse inclusions. Fabrics with vegetal impressions and/or temper are more common than those without them, by 73% to 23%.

Table 5-4: Fabric types, percentage by weight (total=1315g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	<1	30	1	<1	6				37
Medium	1	1	1	2	11	17	1		34
Coarse				7	5	9	1	7	29
Total	1	31	2	9	22	26	2	7	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Eighty-one percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil bulges (2%) and coil folds (10%) on the sherd interiors. Laminar fracture is also present on 4% of the vessels. There are equal numbers of angled coil breaks (4%) and tongue-and-groove coil breaks (4%). The rims have been fashioned either as separate sections (6%) or formed by folding (6%). Star cracks are present on 14% of the vessels.

The exterior surfaces have been finished primarily by finger marking (44%), followed by fine wiping (29%), smoothing (27%), and roughening (21%), with small amounts of rough wiping (6%). Eight percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by finger marking (37%) and smoothing (27%), with small amounts of fine wiping (6%), rough wiping (10%), paddle-and-anvil (4%) and roughening (8%). Twenty-one percent of the vessels have no visible interior surface finish. Drying cracks are present on 19% of the vessels. Sixty-two percent of the vessels exhibit no cracking at all.

By weight, 66% of the sherds have been subjected to an oxidising firing atmosphere, 29% are unoxidised and 5% are irregularly fired. The most common firing profile is type 3 with 51%, followed by type 1 with 18%, type 8 with 12%, types 10 and 12 with 6%, type 13 with 5%, and types 5 and 14 with 1%. An example of dunting is present (2%). Fire cracking is present on 4% of the vessels, as are networks of fine cracks.

Rim diameter ranges from 12cm to 27cm, and is normally distributed with peaks present at 17cm, 25cm and 27cm. Sherd thickness ranges from 3mm to 12mm and is normally distributed. The mode is equally 5mm and 6mm.

Decoration

By weight, 52% of the sherds are not decorated, 31% have incised decoration, 11% have impressed decoration and 6% have applied decoration. The applied motif (App.A.ii) is found on the body exterior. The incised motifs are found on the rim exterior (Inc.R) and in the neck angle (Inc.R). The impressed motifs are found on the rim exterior (two examples of Imp.G.iv) and more often in the neck angle (one example of Imp.G.iv, two examples each of Imp.E and Imp.H.ii and three examples of Imp.H.ii.C).

Surface Deposits

By weight, 45% of the sherds have no visible surface deposits, 26% have charred residue and 29% have slight sooting.

Condition and Sherd Size

By weight, 5% of the sherds are of average condition, 41% are abraded and 54% are very abraded. Maximum sherd dimension ranges from 20mm to 140mm and is normally distributed. The mode is 40mm.

5.1.5 Form 5

This form is represented by 4 sherds weighing 133g in total as 4 individual catalogue entries. The average sherd weight is 33g.

All of the sherds were found in unphased gallery contexts (NWG10-3) except one sherd (no. 4521) which was found in Phase 5.

Fabric

Only one fabric type is present, comprising coarse fabric with abundant inclusions and vegetal impressions and/or temper visible.

Seventy-five percent of the vessels exhibit no surviving evidence of manufacturing techniques. A coil fold is visible on a sherd interior (25%). The only visible surface finish on the exterior is an example of smoothing (25%) – the remainder have no visible exterior surface finish (75%). The only visible surface finish on the interior is finger marking (50%), with the remainder having no visible interior surface finish (50%). None of the vessels exhibit cracking.

By weight, only 5% of the sherds have been subjected to an oxidising firing atmosphere while 95% are unoxidised. The most common firing profile is type 8 with 52%, followed by type 13 with 32% and type 3 with 16%.

There are no measurable rim diameters. Sherd thickness ranges from 7mm to 10mm. The mode is 9mm.

Decoration

By weight, 5% of the sherds are not decorated while 95% have impressed decoration. The impressed motifs are found on the rim exterior and comprise three examples of Imp.G.iv.

Surface Deposits

By weight, 5% of the sherds have no visible surface deposits, 63% have slight sooting and 32% have other types of deposit.

Condition and Sherd Size

By weight, 100% of the sherds are very abraded. Maximum sherd size ranges from 30mm to 90mm. The mode is 30mm.

5.1.6 Form 6

This form is represented by 10 sherds weighing 155g in total as 10 individual catalogue entries. The average sherd weight is 16g.

Manufacture

The single most common fabric is coarse with abundant inclusions and vegetal impressions and/or temper visible. Medium fabrics form the majority and those without vegetal impressions and/or temper are more common than those with them, by 55% to 45%. There are no fine fabrics present at all.

Table 5-5: Fabric types, percentage by weight (total=155g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine									
Medium	3		27	17	17				64
Coarse			8			7		21	36
Total	3		35	17	17	7		21	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Ninety percent of the vessels exhibit no surviving evidence of manufacturing techniques. A single tongue-and-groove coil break (10%) is present. Laminar fractures are present on 20% of the vessels. The exterior surfaces have been finished primarily by smoothing (40%) and finger marking (40%), with rough wiping (20%), very coarse wiping (20%) and roughening (10%) also present. The interior surfaces have been finished primarily by finger marking (50%) with smoothing (30%) and fine wiping (20%) also present and small amounts of rough wiping (10%) and very coarse wiping (10%). Ten percent of the vessels have no visible interior surface finish. Drying cracks and star cracking are present (10% each). Sixty percent of the vessels exhibit no cracking at all.

By weight, 28% of the sherds have been subjected to an oxidising firing atmosphere and 72% are unoxidised. The most common firing profile is type 3 with 48%, followed by type 8 with 24%, type 14 with 21% and type 13 with 8%.

There are no measurable rim diameters. Sherd thickness ranges from 6mm to 10mm with the most frequent measurements being equally 6mm and 7mm.

Decoration

The sherds are not decorated.

Surface Deposits

By weight, 39% of the sherds have no visible surface deposits, 44% have charred residue and 17% have slight sooting.

Condition and Sherd Size

By weight, 10% of the sherds are of average condition and 90% are abraded. Maximum sherd dimension ranges from 30mm to 60mm. The mode is 50mm.

5.1.7 Form 7

This form is represented by 84 sherds weighing 1238g in total as 43 individual catalogue entries. The average sherd weight is 15g.

Manufacture

Although a range of fabric types are present, there are no coarse fabrics with sparse or moderate inclusions and no fine fabrics with abundant inclusions. Coarse fabrics form the minority, while fine fabrics form the majority. The single most common fabric is fine with sparse inclusions and vegetal impressions and/or temper present.

Fabrics with vegetal impressions and/or temper are more common than those without them, by 65% to 35%. Fabrics most frequently have moderate inclusions.

Table 5-6: Fabric types, percentage by weight (total=1238g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	8	29	13	19	3	1			73
Medium	1		1	12	1		6	1	22
Coarse					1	<1	1	3	5
Total	9	29	14	31	5	1	7	4	100

N = no vegetal markings or temper   V = vegetal temper and/or markings

Seventy percent of the vessels exhibit no surviving evidence of manufacturing techniques. Coil folds are present on 19% of the sherd interiors. Angled coil breaks (9%) are more than four times as common as tongue-and-groove coil breaks (2%). Twelve percent of the rims have been fashioned as separate sections. Laminar fracture is present on 7% of the vessels.

The exterior surfaces have been finished primarily by smoothing (70%), with fine wiping (23%) and small amounts of burnishing (2%), polishing (7%), rough wiping (2%) and finger marking (7%) also present. Nine percent of the vessels have no visible exterior finish. The interior surfaces have been finished primarily by smoothing (63%), with small amounts of finger marking (26%) and fine wiping (14%) present. Nine percent of the vessels have no visible interior surface finish. Drying cracks are present on 16% of the vessels. Seventy-two percent of the vessels exhibit no cracking at all.

By weight, 41% of the sherds have been subjected to an oxidising firing atmosphere and 59% are unoxidised. The most common firing profile is type 3 with 35%, followed by type 8 with 23%, type 2 with 11%, type 12 and 13 with 10%, type 1 with 8%, type 14 with 2% and less than 1% each of types 9 and 10. Firing cracks are present on 7% of the vessels.

Rim diameter ranges from 10cm to 28cm and is normally distributed. The mode is 15cm. Sherd thickness ranges from 3mm to 9mm and is normally distributed. The mode is 6mm.

Decoration

By weight, 44% of the sherds have not been decorated, 29% have incised decoration and 27% have impressed decoration. The incised motifs are found in the neck angle (two examples of Inc.O.i and one of Inc.M.ix) and on the shoulder (Inc.C.ii) in almost equal amounts. The impressed motifs are found only in the neck angle (one example of Imp.H.ii and Imp.H.ii.C, and six examples of Imp.H.ii.E).

Surface Deposits

By weight, 13% have no visible surface deposits, 81% have charred residue and 6% have slight sooting.

Condition and Sherd Size

By weight, 13% of the sherds are of average condition, 81% are abraded and 6% are very abraded. Maximum sherd dimension ranges from 20mm to 110mm and is normally distributed. The mode is 30mm.

5.1.8 Form 8

This form is represented by 69 sherds weighing 884g in total as 49 individual catalogue entries. The average sherd weight is 13g.

Manufacture

Although a range of fabric types are present there are no coarse fabrics with sparse inclusions and no fine fabrics with common or abundant inclusions. Medium fabrics form the majority and the most common single fabric is fine with sparse inclusions and no vegetal impressions and/or temper present. Fabrics without vegetal impressions and/or temper are more common than those, by 84% to 16%.

Table 5-7: Fabric types, percentage by weight (total=884g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	22	1	12						35
Medium	3	1	18	9	10	3	4	1	49
Coarse			5			1	10		16
Total	25	2	35	9	10	4	14	1	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Sixty-nine percent of the vessels have no visible manufacturing techniques. Angled coil breaks (20%) are more than twice as common as tongue-and-groove coil breaks (8%). Twenty-seven percent of the rims have been fashioned as separate sections, while just 2% have been formed by folding. Cat. no. 2153 has a complete profile and the base plate has a tongue which is attached to the walls with an angled join. Laminar fracture is present on 4% of the vessels, as is star cracking.

The exterior surfaces have been finished primarily by smoothing (73%), with fine wiping (25%) and small amounts of polishing (2%), rough wiping (2%), finger marking (12%) and roughening (10%). Six percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (65%), with small amounts of fine wiping (8%) and finger marking (14%) also present. Fourteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 10% of the vessels. Eighty percent of the vessels exhibit no cracking at all.

By weight, 40% of the sherds have been subjected to an oxidising firing atmosphere and 60% are unoxidised. The most common firing profile is type 8 with 30%, followed by type 13 with 27%, type 1 with 25%, type 3 with 12%, type 2 with 4% and type 4 with 3%. Fire cracking is present on 4% of the vessels.

Rim diameter ranges from 12cm to 21cm and is normally distributed. The mode is 14cm. Sherd thickness ranges from 4mm to 12mm and is normally distributed. The mode is 6mm.

Decoration

By weight, 82% of the sherds are not decorated, 17% have impressed decoration, 5% have applied decoration and 1% have incised decoration. The incised (Inc.E.i) and applied motifs (App.A.i, App.P) are found in the neck angle. The impressed motif (Imp.F) is found on the rim top.

Surface Deposits

By weight, 28% of the sherds have no visible surface deposits, 33% have charred residue, 37% have slight sooting and 2% have other types of deposit.

Condition and Sherd Size

By weight, 34% of the sherds are of average condition, 59% are abraded and 7% are very abraded. Maximum sherd dimension ranges from 20mm to 100mm and is normally distributed. The mode is 40mm.

5.1.9 Form 9

This form is represented by 1126 sherds weighing 24149g in total as 972 individual catalogue entries. The average sherd weight is 21g.

Manufacture

A wide range of fabric types are present with the single most common being medium with moderate inclusions and no vegetal impressions and/or temper visible. Medium fabrics form the majority. Moderate inclusions are the most frequent. Fabrics without vegetal impressions and/or temper are more common than those with them, by 62% to 38%.

Table 5-8: Fabric types, percentage by weight (total=24149g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	5	5	5	4	1	<1	1		21
Medium	3	2	13	7	12	8	7	3	55
Coarse	<1	<1	2	2	5	3	8	4	24
Total	8	7	20	13	18	11	16	7	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-one percent of the vessels have no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil bulges (1%) and coil folds (13%) on the sherd interiors. Angled coil breaks (14%) are more common than tongue-and-groove coil breaks (2%). Rims are either fashioned as separate sections (17%) or formed by folding (1%). Laminar fracture is present on 5% of the vessels and star cracks are present on 3% of the vessels. Drying cracks are present on 12% of the vessels. Seventy-three percent of the vessels exhibit no cracking at all.

The exterior surfaces have been finished primarily by smoothing (66%) with fine wiping (38%) and smaller amounts of burnishing (1%), polishing (2%), rough wiping (4%), paddle-and-anvil (less than 1%), finger marking (8%), and roughening (1%). Ten percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (68%) with fine wiping (14%) and finger marking (16%) and small amounts of polishing (less than 1%), rough wiping (2%), paddle-and-anvil (1%), scraping, finger drawing (less than 1%) and roughening (2%). Nine percent of the vessels have no visible interior surface finish.

By weight, 67% of the sherds have been subjected to an oxidising firing atmosphere, 31% are unoxidised, 2% are irregularly fired and less than 1% are overfired. The most common firing profile is type 1 with 39%, followed by type 13 with 15%, type 3 with 12%, type 2 with 11%, type 8 with 10%, type 4 with 5%, types 12 and 14 with 3%, type 6 with 1%, and types 5, 7, 9, 10 and 11 with less than 1%. Fire cracking is present on 12% of the vessels. Dunting and spalling each comprise less than 1% of the vessels. One percent of the vessels exhibit networks of fine cracks.

Rim diameter ranges from 8cm to 28cm and is normally distributed with the most frequent measurements being equally 16cm, 19cm and 22cm. Sherd thickness ranges from 3mm to 15mm and is normally distributed. The mode is 8mm.

Decoration

By weight, 70% of the sherds are not decorated, 19% have applied decoration, 5% have channelled decoration, impressed and incised decoration each have 2% by weight, with combinations of applied and other and applied and channelled each with 1%, and combinations of impressed and incised, channelled and incised, channelled and impressed, and applied and incised with less than 1% each.

The majority of the incised motifs are found in the neck angle with a slightly smaller proportion on the shoulder and one example each on the body exterior and body interior. The majority of the impressed motifs are found on the shoulder with a slightly smaller proportion in the neck angle, with an example on the body exterior. The majority of the channelled motifs are found on the rim interior, with a slightly smaller proportion on the shoulder and between the shoulder and neck, and small numbers in the neck angle, on the rim exterior and on the body exterior. The applied motifs are found primarily in the neck angle with small numbers found on the shoulder, body exterior and between the shoulder and neck. The other motif is found between the shoulder and neck.

Surface Deposits

By weight, 38% of the sherds have no visible surface deposits, 39% have charred residue, 23% have slight sooting and less than 1% have other types of deposit.

Condition and Sherd Size

By weight, 23% of the sherds are of average condition, 57% are abraded and 20% are very abraded. Maximum sherd dimension ranges from 20mm to 180mm and is normally distributed. The mode is 40mm.

5.1.10 Form 10

This form is represented by 26 sherds weighing 652g in total as 19 individual catalogue entries. The average sherd weight is 25g.

Manufacture

Only six different fabric types are present. Medium fabrics form the majority. The single most common fabric type is medium with abundant inclusions and no vegetal impressions and/or temper visible. Abundant inclusions are the most frequent. Fabrics without vegetal impressions and/or temper are more common than those with them, by 65% to 35%.

Table 5-9: Fabric types, percentage by weight (total=652g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	<1		1						1
Medium			10	18			54	4	86
Coarse						2		11	13
Total			11	18		2	54	15	100

N = no vegetal markings or temper   V = vegetal temper and/or markings

Sixty-eight percent of the vessels have no surviving evidence of manufacturing techniques. Coil bulges (5%) and coil folds (16%) are present on sherd interiors. Two examples of angled coil breaks are present (11%). Thirty-two percent of the rims have been fashioned as separate sections. Laminar fracture and star cracking are each present on 5% of the vessels.

The exterior surfaces have been finished by smoothing (53%) and fine wiping (37%). Twenty-six percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished by smoothing (68%) with small amounts of fine wiping (16%) and finger marking (11%) also present. Sixteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 21% of the vessels. Sixty-three percent of the vessels exhibit no cracking at all

By weight, 72% of the sherds have been subjected to an oxidising firing atmosphere and 28% are unoxidised. The most common firing profile is type 1 with 64% by weight, followed by type 3 with 24%, type 2 with 4%, type 14 with 3%, type 13 with 2% and types 8 and 9 with 1%. Fire cracks are present on 21% of the vessels.

Rim diameter ranges from 10cm to 27cm with no single measurement occurring more than once. Sherd thickness ranges from 5mm to 13mm and is normally distributed with no single measurement being more frequent.

Decoration

By weight, 34% of the sherds are not decorated, 57% have applied decoration, 8% have incised decoration and 1% have channelled decoration. The channelled motif Cha.I is found on the rim interior. The applied motifs (one example each of App.B.i, App.A.i, App.H, App.I) are found only in the neck angle. The incised decoration is found in the neck angle (one example of Inc.E.i) and on the shoulder (one example each of Inc.A.iii and Inc.C.i), the latter being more common by one example.

Surface Deposits

By weight, 67% of the sherds have no visible surface deposits, 21% have charred residue and 12% have slight sooting.

Condition and Sherd Size

By weight, 2% of the sherds are of average condition, 26% are abraded and 72% are very abraded. Maximum sherd dimension ranges from 20mm to 90mm and is normally distributed. The mode is 40mm.

5.1.11 Form 11

This form is represented by 50 sherds weighing 895g in total as 42 individual catalogue entries. The average sherd weight is 18g.

Manufacture

Coarse fabrics form the majority with very little fine fabric present. The single most common fabric type is coarse with common inclusions and no vegetal impressions and/or temper visible. Common inclusions are most frequent. Fabrics without vegetal impressions and/or temper are more common than those with them, by 68% to 32%.

Table 5-10: Fabric types, percentage by weight (total=895g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	1								1
Medium	<1		20	5	6	5	2		38
Coarse		2	9	3	25	8	5	9	61
Total	1	2	29	8	31	13	7	9	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Forty-eight percent of the vessels exhibit no surviving evidence of manufacturing techniques. Coil folds (7%) are visible on the sherd interiors. Laminar fracture is present on 2% of the vessels. There are slightly more incidences of angled coil breaks (26%) than tongue-and-groove coil breaks (17%). Forty-eight percent of the rims have been fashioned as separate sections, while just 2% has been formed by folding. Twelve percent of the vessels exhibit star cracking.

The exterior surfaces have been finished by roughening (43%) and finger marking (43%) primarily, closely followed by smoothing (31%), with smaller amounts of fine wiping (17%), rough wiping (12%) and very coarse wiping (2%). Ten percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished by finger marking (33%), smoothing (26%) and fine wiping (26%), with small amounts of rough wiping (12%) and roughening also present (5%). Nineteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 24% of the vessels. Fifty-seven percent of the vessels exhibit no cracking at all.

By weight, 21% of the sherds have been subjected to an oxidising firing atmosphere and 79% are unoxidised. The most common firing profile is type 8 with 41%, followed by type 3 with 21%,type 13 with 13%, type 1 with 17%, type 2 with 6% and type 12 with 3%. Fire cracking is present on 7% of the vessels. Five percent of the vessels exhibit dunting, while 2% have networks of fine cracks present.

Rim diameter ranges from 10cm to 32cm and is normally distributed. The mode is equally 20cm and 24cm. Sherd thickness ranges from 5mm to 11mm and is normally distributed. The mode is 6mm.

Decoration

The sherds are not decorated.

Surface Deposits

By weight, 29% of the sherds have no visible surface deposits, 38% have charred residue and 33% have slight sooting.

Condition and Sherd Size

By weight, 26% of the sherds are of average condition, 69% are abraded and 5% are very abraded. Maximum sherd dimension ranges from 30mm to 100mm and is normally distributed. The mode is 40mm.

5.1.12 Form 12

This form is represented by 16 sherds weighing 645g in total as 14 individual catalogue entries. The average sherd weight is 40g.

Coarse fabrics just form the majority. The single most common fabric type is coarse with abundant inclusions and no vegetal impressions and/or temper visible. The only fine fabric present has sparse inclusions and no vegetal impressions and/or temper visible. Fabrics without vegetal impressions and/or temper are more common than those with them, by 61% to 39%.

Table 5-11: Fabric types, percentage by weight (total=645g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	12								12
Medium		27	3	9	1		2		42
Coarse					9		34	3	46
Total	12	27	3	9	10		36	3	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Sixty-four percent of the vessels have no surviving evidence of manufacturing techniques. Coil folds are visible on the interior of 36% of the vessels. Twenty-one percent of the rims have been fashioned as separate sections. The exterior surfaces have been finished primarily by smoothing (79%) with small amounts of polishing (7%) and fine wiping also present (29%). Fourteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (71%) with small amounts of fine wiping (14%), paddle-and-anvil (7%) and finger marking also present (29%). Seven percent of the vessels have no visible interior surface finish. Drying cracks are present on 14% of the vessels. Sixty-four percent of the vessels exhibit no cracking at all.

By weight, 79% of the sherds have been subjected to an oxidising firing atmosphere and 21% are unoxidised. The most common firing profile is type 1 with 68%, followed by type 8 with 21%, type 3 with 7% and type 13 with 4%. Fire cracking (7%) and networks of fine cracks (14%) are present.

Two rim diameters were measured at 25cm and 35cm. Sherd thickness ranges from 6mm to 12mm and is normally distributed. The mode is 8mm.

Decoration

By weight, 64% of the sherds have not been decorated while 36% have applied decoration. One vessel has applied motif App.A.iv placed in both the neck angle and on the shoulder (cat. no. 2199). A further vessel has motif App.A.ii placed in the neck angle (cat. no. 96).

Surface Deposits

By weight, 53% of the sherds have no visible surface deposits, 20% have charred residue and 27% have slight sooting.

Condition and Sherd Size

By weight, 23% of the sherds are of average condition, 53% are abraded and 24% are very abraded. Maximum sherd dimension ranges from 30mm to 110mm. The mode is 50mm.

5.1.13 Form 13

This form is represented by 3 sherds weighing 158g in total as 3 individual catalogue entries. The average sherd weight is 53g.

Manufacture

Only three different fabric types are present, one for each of the vessels present and therefore it is difficult to obtain any meaningful results from this data. The single most common fabric type is coarse with common inclusions and vegetal impressions and/or temper present.

Table 5-12: Fabric types, percentage by weight (total=158g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine		38							38
Medium								15	15
Coarse						47			47
Total		38				47		15	100

N = no vegetal markings or temper V = vegetal temper and/or markings

There are two examples (67%) of coil folds on sherd interiors. One rim (33%) has been fashioned as a separate section. The exterior surfaces have been finished by smoothing (100%) and fine wiping (67%). The interior surfaces have been finished by smoothing only. An example (33%) of drying cracks is present.

The sherds have been subjected to an oxidising firing atmosphere. The most common firing profile is type 3 with 47% by weight, followed by type 13 with 39% and type 9 with 14%. An example (33%) of fire cracking is present.

A rim diameter of 28cm has been measured. Sherd thickness ranges from 8mm to 11mm.

Decoration

By weight, 61% of the sherds are not decorated and 39% have applied decoration (cat. no. 2147). The applied motif App.A.ii is found in the neck angle.

Surface Deposits

By weight, 15% of the sherds have no visible surface deposits and 85% have slight sooting.

Condition and Sherd Size

The sherds are abraded. Maximum sherd dimension ranges from 60mm to 80mm.

5.1.14 Form 14

This form is represented by 1 sherd (cat. no. 2180) weighing 25g in total as 1 individual catalogue entry. The sherd was found in Phase 7.

Manufacture

The fabric is fine with moderate inclusions and no vegetal impressions and/or temper visible. The rim has been formed by folding. Laminar fracture is present. The exterior surfaces have been finished by smoothing and finger marking. The interior surfaces have been finished by smoothing. The sherd is unoxidised and has a firing profile of type 8. The rim diameter is not measurable. Sherd thickness is 6mm.

Decoration

The sherd is not decorated.

Surface Deposits

The sherd has charred residue present.

Condition and Sherd Size

The sherd is abraded. Maximum sherd dimension is 70mm.

5.1.15 Form 15

This form is represented by 265 sherds weighing 3804g in total as 231 individual catalogue entries. The average sherd weight is 14g.

Although a range of fabrics are present, there are no fine fabrics with abundant inclusions. Medium fabrics form the majority. The single most common fabric type is medium with common inclusions and no vegetal impressions and/or temper visible. Fabrics with common inclusions are more frequent. Fabrics without vegetal impressions and/or temper are more common than those with them, by 84% to 16%.

Table 5-13: Fabric types, percentage by weight (total=3804g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	2		2	1	<1				5
Medium	3	<1	13	4	20	2	10		52
Coarse	<1	<1	6	2	19	4	9	3	43
Total	5		21	7	39	6	19	3	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Eighty-four percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by coil bulges (2%) and coil folds (1%) present on sherd interiors. Laminar fracture is also present (3%). Tongue-and-groove coil breaks (9%) are three times as common as angled coil breaks (3%). Rims have been fashioned as separate sections (7%) or are formed by folding (2%). Star cracks are present on 7% of the vessels.

The exterior surfaces have been finished primarily by finger marking (42%) and roughening (41%) with fine wiping (18%), smoothing (17%) and rough wiping (16%) also present, along with small amounts of very coarse wiping (2%) and paddle-and-anvil (1%). Four percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by finger marking (38%) and smoothing (27%), with fine wiping (11%), rough wiping (8%), and roughening (9%) also present, along with small amounts of very coarse wiping (1%), paddle-and-anvil (2%), burnishing (1%), and scraping (1%). Fourteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 22% of the vessels. Sixty-four percent of the vessels exhibit no cracking at all.

By weight overall, 13% of the sherds have been subjected to an oxidising firing atmosphere, 83% are unoxidised and 4% are irregularly fired. The most common firing profile is type 8 with 50% by weight overall, followed by type 13 with 13%, type 12 with 11%, types 3 and 14 with 8% each, type 1 with 7%, type 2 with 2%, and type 4 with 1% and types 5 and 6 with less than 1% each. Fire cracking is present on 4% of the vessels. Spalling and dunting are present in small quantities, as are networks of fine cracks (1% each).

Rim diameter ranges from 15cm to 33cm and is normally distributed. The mode is 21cm, 26cm and 28cm equally. Sherd thickness ranges from 4mm to 12mm and is normally distributed. The mode is 6mm.

Decoration

By weight, 100% of the sherds are not decorated while less than 1% have impressed decoration. This manifests itself as a single example of motif Imp.F on the rim top (sherd no. 3451).

Surface Deposits

By weight overall, 20% of the sherds have no visible surface deposits, 51% have charred residue, 27% have slight sooting and 2% have other types of deposit.

Condition and Sherd Size

By weight overall, 25% of the sherds are of average condition, 70% are abraded and 5% are very abraded. Maximum sherd dimension ranges from 30mm to 110mm and is normally distributed. The mode is 40mm and 50mm equally.

5.1.16 Form 16

This form is represented by 680 sherds weighing 11645g in total as 553 individual catalogue entries. The average sherd weight is 17g.

Manufacture

Although a range of fabric types are present there are no fine fabrics with abundant inclusions. The single most common fabric type is coarse with common inclusions and no vegetal impressions and/or temper visible. Fabrics with common inclusions are the most frequent. Fabrics without vegetal impressions and/or temper are more common than those with them, by 74% to 26%.

Table 5-14: Fabric types, percentage by weight (total=11645g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	10	1	2	2	<1				15
Medium	4	<1	12	5	13	1	5	3	43
Coarse	2	1	4	1	14	7	8	5	42
Total	16	2	18	8	27	8	13	8	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Sixty-four percent of the sherds exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by coil bulges (1%) and coil folds on the sherd interiors (4%). Laminar fracture is also present (4%). Tongue-and-groove coil breaks (20%) are twice as common as angled coil breaks (10%). Rims have been fashioned either as separate sections (24%) or formed by folding (2%). Star cracking is present on 5% of the vessels.

The exterior surfaces have been finished primarily by finger marking (30%), smoothing (24%), with roughening (20%), fine wiping (16%) and rough wiping (16%), very coarse wiping (3%) and burnishing (less than 1%) also present. Six percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by finger marking (32%) and smoothing (31%), with fine wiping (12%), and roughening (11%), rough wiping (5%), paddle-and-anvil

(1%) and very coarse wiping (less than 1%) also present. Drying cracks are present on 19% of the vessels. Sixty-eight percent of the vessels exhibit no cracking at all.

By weight overall, 16% of the sherds have been subjected to an oxidising firing atmosphere, 83% are unoxidised, 1% are irregularly fired and less than 1% have been overfired. The most common firing profile is type 8 with 45%, followed by type 3 with 20%, type 13 with 14%, type 1 and 12 with 5% each, types 2 and 14 with 4% each, types 4 and 7 with 1% each and types 5 and 6 with less than 1% each. Fire cracking is present on 7% of the vessels, with spalling and networks of fine cracks present on less than 1% of the vessels each.

Rim diameter ranges from 12cm to 35cm and is normally distributed. The mode is 22cm. Sherd thickness ranges from 4mm to 14mm and is normally distributed. The mode is 6mm.

Decoration

By weight overall, 92% of the sherds are not decorated, 6% have applied decoration, 1% have impressed decoration and 1% have other types of decoration. The other motifs (6 examples of Oth.B) are found on the rim top, as are the impressed motifs (6 examples of Imp.F). The applied motifs are found primarily on the neck angle (29 examples) with the remainder found on the body exterior (one example of App.P) and rim exterior (one example of App.B.i).

Surface Deposits

By weight overall, 19% of the sherds have no visible surface deposits, 58% have charred residue, 21% have slight sooting and 3% have other types of deposit.

Condition and Sherd Size

By weight overall, 22% of the sherds are of average condition, 66% are abraded and 12% are very abraded. Maximum sherd dimension ranges from 20mm to 120mm and is normally distributed. The mode is 40mm.

5.1.17 Form 17

This form is represented by 48 sherds weighing 1743g in total as 27 individual catalogue entries. The average sherd weight is 36g.

Manufacture

Although a range of fabric types are present, there are no fine fabrics with common or abundant inclusions, or coarse fabrics with sparse inclusions. Medium fabrics form the majority. The single most common fabric type is medium with common inclusions and no vegetal impressions and/or temper visible. Fabrics without vegetal impressions and/or temper are more common than those with them, by 87% to 13%.

Table 5-15: Fabric types, percentage by weight (total=1743g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	2	3	9						14
Medium	10		13	2	26	4	7		62
Coarse			3		5		12	4	24
Total	12	3	25	2	31	4	19	4	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Thirty percent of the vessels exhibit no surviving evidence of manufacturing techniques. A number of coil folds (22%) are present on the sherd interiors. Angled coil breaks (33%) are nearly five times as common as tongue-and-groove coil breaks (7%). Rims have been formed either by folding (7%) or were fashioned as separate sections (56%). Laminar fracture is present on 11% of the vessels, and star cracking is present on 7% of the vessels.

The exterior surfaces have been finished primarily by smoothing (52%), with fine wiping (30%) and finger marking (22%) and smaller amounts of rough wiping (15%), very coarse wiping (4%), paddle-and-anvil (4%) and roughening (15%). Four percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (70%), with small amounts of fine wiping (15%), rough wiping (7%), finger marking (22%) and roughening (11%) also present. Twenty-six percent of the vessels exhibit drying cracks. Forty-eight percent of the vessels exhibit no cracking at all.

By weight, 54% of the sherds have been subjected to an oxidising firing atmosphere, 44% are unoxidised and 2% are irregularly fired. The most common firing profile is type 1 with 42%, followed by type 8 with 31%, type 13 with 19%, type 3 with 6%, type 14 with 2% and type 12 with 1%. Fire cracking is present on 15% of the vessels, along with networks of fine cracks on 4% of the vessels.

Rim diameter ranges from 18cm to 28cm and is normally distributed with no single measurement being more frequent. Sherd thickness ranges from 5mm to 11mm and is normally distributed. The mode is 9mm.

Decoration

By weight, 35% of the sherds have not been decorated and 65% have applied decoration. The applied motifs are found only in the neck angle and comprise motifs App.A.i (5 examples), App.A.ii (3 examples), App.C.i (one example), App.E.i (one example), App.F (three examples), and App.P (two examples).

Surface Deposits

By weight, 41% of the sherds have no visible surface deposits, 46% have charred residue, 12% have slight sooting and 2% have other types of deposit.

By weight, 32% of the sherds are of average condition, 65% are abraded and 3% are very abraded. Maximum sherd dimension ranges from 60mm to 150mm. The mode is 90mm.

5.1.18 Form 21

This form is represented by 6 sherds weighing 118g in total as 6 individual catalogue entries. The average sherd weight is 20g.

Manufacture

There are only four different fabric types present. None of them have vegetal impressions and/or temper visible. The single most common fabric type is fine with sparse inclusions.

Table 5-16: Fabric types, percentage by weight (total=118g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	45								45
Medium	26		12		17				55
Coarse									
Total	71		12		17				100

N = no vegetal markings or temper V = vegetal temper and/or markings

Fifty percent of the vessels have no surviving evidence of manufacturing techniques. An angled coil break is present (17%). Two examples (33%) of coil folds are present on sherd interiors. Two examples (33%) of laminar fracture are present. The exterior surfaces have been finished primarily by smoothing (67%) with smaller amounts of polishing (17%) and fine wiping (33%) present. The interior surfaces have been finished by smoothing (50%) and finger marking (33%). Seventeen percent of the vessels have no visible interior surface finish.

By weight, 31% of the sherds have been subjected to an oxidising firing atmosphere and 69% are unoxidised. Firing profile types 3, 8 and 13 each have 26% by weight, followed by type 12 with 17% and type 2 with 4%.
Sherd thickness ranges from 5mm to 9mm with the most frequent measurements being 5mm and 7mm.

Decoration

By weight, 43% of the sherds are not decorated, 31% have channelled decoration, 14% have incised decoration and 12% have applied decoration. All of the motifs are found on the shoulder. The motifs comprise one example each of Cha.K, Cha.C.i, Inc.E.i and App.A.ii.

Surface Deposits

By weight, 31% of the sherds have no visible surface deposits and 69% have charred residue.

Condition and Sherd Size

By weight, 17% of the sherds are of average condition, 57% are abraded and 26% are very abraded. Maximum sherd dimension ranges from 40mm to 70mm. The mode is 60mm.

5.1.19 Form 22

This form is represented by 40 sherds weighing 1197g in total as 32 individual catalogue entries. The average sherd weight is 30g.

Medium fabrics form the majority while there are few coarse fabrics. There are no fine fabrics with abundant inclusions or coarse fabrics with sparse or common inclusions. The single most common fabric type is fine with sparse inclusions and no vegetal impressions and/or temper visible. Fabrics without vegetal impressions and/or temper are more common than those with them, by 72% to 28%.

Table 5-17: Fabric types, percentage by weight (total=1197g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	28	8	2		1				39
Medium	3		11	14	8	6	7		49
Coarse			9				3		12
Total	31	8	22	14	9	6	10		100

N = no vegetal markings or temper   V = vegetal temper and/or markings

Forty-four percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels are coil built as evidenced by the presence of coil bulges (9%) and coil folds (25%) on sherd interiors. Laminar fracture is also present (3%). Angled coil breaks (28%) are more common than tongue-and-groove coil breaks (6%). Six percent of the vessels have rims which have been fashioned as separate sections. Star cracking is present on three percent of the vessels.

The exterior surfaces have been finished primarily by smoothing (78%) with fine wiping (31%) and small amounts of polishing (3%), rough wiping (6%), finger marking (9%) and roughening (9%). The interior surfaces have been finished primarily by smoothing (38%) and finger marking (38%), with smaller amounts of rough wiping (3%), paddle-and-anvil (16%) and roughening (13%). Three percent of the vessels have no visible interior surface finish. Drying cracks are present on 19% of the vessels. Sixty-three percent of the vessels exhibit no cracking at all.

By weight overall, 46% of the sherds have been subjected to an oxidising firing atmosphere, 47% are unoxidised, 6% have been irregularly fired and 2% have been overfired. The most common firing profile is type 1 with 33%, followed by type 8 with 28%, type 2 with 13%, type 13 with 11% and types 3 and 12 with 8% each. Fire cracking is present on thirteen percent of the vessels.

Sherd thickness ranges from 4mm to 12mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, 25% of the sherds are not decorated, 41% have applied decoration (one example each of App.B.i , App.C.i, App.P, 6 examples of App.A.i, 2 examples of App.A.ii, 3 examples of App.A.iii), 20% have channelled decoration (one example each of Cha.D.ii, Cha.D.v, Cha.D.i, Cha.D.iii), 7% have incised decoration (two examples of Inc.N.iii, one example each of Inc.A.i, Inc.D.ii, Inc.E.i, Inc.F.iii), 4% have applied, incised and impressed decoration together (App.C.i with Inc.A.i and Imp.H.i.R), while there is 1% each of impressed decoration (one example each of Imp.H.iv.E, Imp.A.i), channelled and applied decoration together (App.A.i with Cha.D.iii), and channelled and impressed decoration together (Cha.D.ii with Imp.H.iv.E).

All of the motifs are found on the shoulder except two examples of channelled decoration found between the shoulder and neck (Cha.D.v, Cha.D.i) and two examples of incised decoration found in the neck angle (Inc.A.i, Inc.D.ii).

Surface Deposits

By weight overall, 21% of the sherds have no visible surface deposits, 68% have charred residue and 11% have slight sooting.

Condition and Sherd Size

By weight overall, 21% of the sherds are of average condition, 71% are abraded and 8% are very abraded. Maximum sherd dimension ranges from 40mm to 110mm and is normally distributed. The mode is 70mm.

5.1.20 Form 23

This form is represented by 505 sherds weighing 7482g in total as 469 individual catalogue entries. The average sherd weight is 15g.

Manufacture

Although a range of fabric types are present, fine fabrics are very much in the minority. Coarse fabrics form the majority. The single most common fabric type is coarse with common inclusions and no vegetal impressions and/or temper visible. Fabrics without vegetal impressions and/or temper are more common than those with them, by 80% to 20%.

Table 5-18: Fabric types, percentage by weight (total=7482g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	2	1	1						4
Medium	5	2	16	3	10	3	3	<1	42
Coarse	<1	1	12	3	25	5	6	2	54
Total	7	4	29	6	35	8	9	2	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Seventy-seven percent of the vessels exhibit no surviving evidence of manufacturing techniques. The base plates have been manufactured with a tongue to which the walls have been attached. In 17% of cases, the walls are attached with a tongue-and-groove coil join, and in 4% of cases with an angled coil join. Less than 1% of cases have base plates without a tongue. Coil folds and coil bulges are present on sherd interiors (less than 1% each), suggesting coil building. Tongue-and-groove coil breaks (2%) are more common than angled coil breaks (less than 1%). Laminar fracture is also present (2%). Star cracking is present on 6% of vessels.

The exterior surfaces have been finished primarily by roughening (56%) and finger marking (35%), with smaller amounts of smoothing (12%), rough wiping (6%), fine wiping (4%), very coarse wiping (1%), and burnishing (less than 1%). Ten percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by finger marking (42%) and smoothing (30%), with smaller amounts of roughening (10%), fine wiping (2%), rough wiping (2%), very coarse wiping (1%), and scraping (less than 1%). Nineteen percent of the vessels have no visible interior surface finish. Drying cracks are present on 18% of the vessels. Sixty percent of vessels exhibit no cracking at all.

By weight overall, 15% of the sherds have been subjected to an oxidising firing atmosphere and 84% are unoxidised and 1% are overfired. The most common firing profile is type 13 with 38%, followed by type 8 with 27%, type 3 with 16%, type 2 with 6%, type 14 with 4%, types 1 and 12 with 3% each, type 4 with 2%, type 9 with 1%, and types 5 and 10 with less than 1% each. Fire cracking are present on 18% of the vessels. Two percent of the vessels exhibit a network of fine cracks.

Base diameter ranges from 6cm to 13cm and is normally distributed. The mode is 9cm. Sherd thickness ranges from 3mm to 20mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, 99% of the sherds are not decorated while 1% have channelled decoration. This equates to just one vessel, with the channelled motif (Cha.G) found on the base interior (cat. no. 2113).

Surface Deposits

By weight overall, 64% of the sherds have no visible surface deposits, 10% have charred residue, 22% have slight sooting and 3% have other types of deposit.

Condition and Sherd Size

By weight overall, 13% of the sherds are of average condition, 70% are abraded and 17% are very abraded.

5.1.21 Form 24

This form is represented by 525 sherds weighing 13194g in total as 434 individual catalogue entries. The average sherd weight is 25g.

Manufacture

A range of fabric types are present, with medium types forming the majority. The single most common fabric is medium with common inclusions and no vegetal impressions and/or temper visible. Fine fabrics are uncommon. Fabrics without vegetal impressions and/or temper are more common than those with them, by 75% to 25%.

Table 5-19: Fabric types, percentage by weight (total=13194g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	2	1	4	1	1		<1		9
Medium	9	2	13	4	14	5	4	2	53
Coarse	2		8	2	13	6	5	2	38
Total	13	3	25	7	28	11	9	4	100

N = no vegetal markings or temper   V = vegetal temper and/or markings

Fifty-nine percent of the vessels exhibit no surviving evidence of manufacturing techniques. The base plates have been manufactured with a tongue to which the walls have been attached. In 25% of cases, the walls are attached with a tongue-and-groove coil join, and in 14% of cases with an angled coil join. Less than 1% of cases have base plates without a tongue. Coil folds and coil bulges are present on sherd interiors in less than 1% of cases. Tongue-and-groove coil breaks are present on 2% of the vessels. Laminar fracture is present on 5% of the vessels.

The exterior surfaces have been finished primarily by smoothing (41%) and roughening (34%), with smaller amounts of finger marking (9%), fine wiping (5%), rough wiping (5%), polishing (2%), burnishing (1%), and very coarse wiping (1%). Fourteen percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (44%) and finger marking (37%), with smaller amounts of roughening (12%), fine wiping (3%), rough wiping

(3%), very coarse wiping (1%) and scraping (less than 1%). Ten percent of the vessels have no visible interior surface finish. Star cracks are present on 3% of the vessels. Drying cracks are present on 10% of the vessels. Fifty-nine percent of the vessels exhibit no cracking at all.

By weight overall, 33% of the sherds have been subjected to an oxidising firing atmosphere, 65% are unoxidised and 2% are irregularly fired. The most common firing profile is type 13 with 26%, followed by type 3 with 24%, type 8 with 22%, type 14 with 9%, type 1 with 6%, type 2 with 5%, type 12 with 4%, type 4 with 2%, types 5 and 9 with 1%, and types 6 and 10 with less than 1%. Fire cracking is present on 25% of the vessels. Networks of fine cracks are present on 5% of the vessels. Less than 1% of the vessels exhibit spalling.

Base diameter ranges from 5cm to 16cm and is normally distributed. The mode is 9cm. Sherd thickness ranges from 3mm to 18mm and is normally distributed. The mode is 8mm.

Decoration

By weight overall, 99% of the sherds are not decorated, 1% have impressed decoration and less than 1% have channelled decoration. The motifs (one example each of Imp.G.i, Imp.G.iii, Cha.G) are all found on the base interior.

Surface Deposits

By weight overall, 47% of the sherds have no visible surface deposits, 28% have charred residue, 21% have slight sooting and 3% have other types of deposit.

Condition and Sherd Size

By weight overall, 29% of the sherds are of average condition, 63% are abraded and 8% are very abraded. Maximum sherd dimension ranges from 20mm to 140mm and is normally distributed. The mode is 40mm.

5.1.22 Form 25

This form is represented by 6 sherds weighing 170g in total as 6 individual catalogue entries. The average sherd weight is 28g.

Manufacture

There are only five different fabric types present. The single most common fabric is fine with sparse inclusions and with vegetal impressions and/or temper present. Fabrics with vegetal impressions and/or temper are more common than those without them, by to 64% to 36%.

Table 5-20: Fabric types, percentage by weight (total=170g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine		30	24						54
Medium			12			12		22	46
Coarse									
Total		30	36			12		22	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Eighty-three percent of the vessels have no surviving evidence of manufacturing techniques. An angled coil break is present (17%). Fifty percent of the vessels exhibit laminar fracture. The exterior surfaces have been finished primarily by smoothing (50%) with small amounts of polishing (17%), fine wiping (17%), rough wiping (17%) and finger marking (17%) also present. The interior surfaces have been finished by smoothing (83%) with small amounts of finger marking (17%).

By weight, 73% of the sherds have been subjected to an oxidising firing atmosphere, 22% of the sherds are unoxidised and 5% are overfired. The most common firing profile is type 14 with 41% by weight, followed by type 1 with 25%, type 8 with 22% and type 3 with 12%. Fire cracking is present on 67% of the vessels.

Base diameter ranges from 6cm to 8cm and is normally distributed. The mode is 7cm. Sherd thickness ranges from 4mm to 6mm. The mode is 6mm.

Decoration

The sherds are not decorated.

Surface Deposits

By weight, 28% of the sherds have no visible surface deposits and 72% have charred residue.

Condition and Sherd Size

By weight, 5% of the sherds are of average condition and 95% are abraded. Maximum sherd dimension ranges from 50mm to 90mm. The mode is equally 60mm and 90mm.

5.1.23 Form 26

This form is represented by 4 sherds weighing 42g in total as 4 individual catalogue entries. The average sherd weight is 11g.

Manufacture

There are only three different fabric types present. Fine fabrics form the majority. The single most common fabric type is fine with moderate inclusions and no vegetal impressions and/or temper visible.

Table 5-21: Fabric types, percentage by weight (total=42g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	12		55						67
Medium				33					33
Coarse									
Total	12		55	33					100

N = no vegetal markings or temper V = vegetal temper and/or markings

There is no surviving evidence of manufacturing techniques present. The exterior surfaces have been finished by smoothing (100%) and rough wiping (25%). The interior surfaces have been finished by smoothing (50%), with 50% of the vessels exhibiting no surface finish.

By weight overall, 88% of the sherds have been subjected to an oxidising firing atmosphere and 12% are unoxidised. The most common firing profile is type 3 with 55%, followed by type 1 with 33%, and type 2 with 12%. An example of fire cracking (25%) is present.

Base diameter ranges from 6cm to 9cm with no single measurement being more frequent. Sherd thickness ranges from 5mm to 7mm. The mode is 6mm.

Decoration

The sherds are not decorated.

Surface Deposits

By weight overall, 100% of the sherds have no visible surface deposits.

Condition and Sherd Size

By weight overall, 12% of the sherds are of average condition and 88% are abraded. Maximum sherd dimension ranges from 30mm to 50mm. The mode is 50mm.

5.1.24 Form 28

This form is represented by 3 sherds weighing 65g in total as 3 individual catalogue entries. The average sherd weight is 22g.

There are only two different fabric types present, and both are fine fabrics. The most common fabric type is fine with moderate inclusions and no vegetal impressions and/or temper present.

Table 5-22: Fabric types, percentage by weight (total=65g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	29		71						100
Medium									
Coarse									
Total	29		71						100

N = no vegetal markings or temper V = vegetal temper and/or markings

There is no surviving evidence of manufacturing techniques. The exterior and interior surfaces have been finished by smoothing.

By weight overall, 91% of the sherds have been subjected to an oxidising firing atmosphere and 9% are unoxidised. The most common firing profile is type 1 with 71% by weight, followed by type 2 with 20% and type 8 with 9%. An example of fire cracking is present.

There are no measurable rim diameters. Sherd thickness ranges from 8mm to 12mm with no single measurement being more frequent.

Decoration

By weight overall, 29% of the sherds are not decorated and 71% have channelled decoration. This equates to one sherd with motif Cha.I on the lug interior.

Surface Deposits

By weight overall, 91% of the sherds have no visible surface deposits and 9% have charred residue.

Condition and Sherd Size

By weight overall, 9% of the sherds are abraded and 91% are very abraded. Maximum sherd dimension ranges from 30mm to 70mm with no single measurement being more frequent.

5.1.25 Form 29

This form is represented by 955 sherds weighing 22297g in total as 844 individual catalogue entries. The average sherd weight is 23g.

Manufacture

A range of fabric types are present, with medium fabrics the most common. The single most common fabric is medium with moderate inclusions and no vegetal impressions and/or temper visible. Fabrics without vegetal impressions and/or temper are more common than those with them, by 75% to 25%.

Table 5-23: Fabric types, percentage by weight (total=22297g)

	Sparse		Moderate		Common		Abundant		
	N	V	N	V	N	V	N	V	Total
Fine	7	2	4	1	1	1	<1		16
Medium	8	4	19	7	12	4	3	<1	57
Coarse	<1	<1	6	2	9	3	6	1	27
Total	15	6	29	10	22	8	9	1	100

N = no vegetal markings or temper V = vegetal temper and/or markings

Sixty-seven percent of the vessels exhibit no surviving evidence of manufacturing techniques. The vessels have been coil built as evidenced by the presence of coil bulges (11%) and coil folds (9%) on sherd interiors. Angled coil breaks (12%) are three times more common than tongue-and-groove coil breaks (4%). Less than 1% of the sherds exhibit finger drawing. Laminar fracture is present on 4% of the vessels. Star cracking is present on 2% of the vessels.

The exterior surfaces have been finished primarily by smoothing (73%), with smaller amounts of fine wiping (33%), polishing (5%), rough wiping (5%), roughening (3%), finger marking (1%), burnishing (1%), very coarse wiping (less than 1%). Seven percent of the vessels have no visible exterior surface finish. The interior surfaces have been finished primarily by smoothing (46%) and finger marking (43%), with smaller amounts of roughening (6%), fine wiping (4%), paddle-and-anvil (4%), rough wiping (2%), very coarse wiping (less than 1%), scraping (less than 1%), and finger drawing (less than 1%). Twelve percent of the vessels have no visible interior surface finish. Drying cracks are present on 18% of the vessels. Sixty-five percent of the vessels exhibit no cracking at all.

By weight overall, 62% of the sherds have been subjected to an oxidising firing atmosphere, 37% are unoxidised, 1% are irregularly fired and less than 1% are overfired. The most common firing profile is type 1 with 28%, followed by type 8 with 15%, types 13 and 14 with 14% each, types 2 and 3 with 10% each, types 4, 5 and 12 with 3% each, type 6 with 1%, and types 7, 9 and 10 with less than 1% each. Fire cracking is present on 12% of the vessels. Two percent have networks of fine cracks and less than 1% exhibit spalling.

Sherd thickness ranges from 3mm to 16mm and is normally distributed. The mode is 7mm.

Decoration

By weight overall, less than 1% of the sherds are not decorated, 84% have applied decoration, 1% have channelled decoration, 1% have impressed decoration, 3% have incised decoration, 3% have applied and channelled decoration together, less than 1% have applied and incised decoration together, less than 1% have channelled and impressed decoration together, less than 1% have impressed and incised decoration together and 7% have other types of deposit. The position of these decorative motifs is illustrated in the table below.

Table 5-24: Position of decorative motifs

	Body exterior	Body interior	Rim exterior	Rim interior	Rim top	Neck angle	Shoulder	Between shoulder & neck	Between shoulder & base	Base exterior	Base interior
Other	43										
Incised	60	9					2				
Impressed	32						1				
Channelled	13							5			
Applied	662					1	29				

Surface Deposits

By weight, 24% of the sherds have no visible surface deposits, 59% have charred residue, 16% have slight sooting and 1% have other types of deposit.

Condition and Sherd Size

By weight overall, 28% of the sherds are of average condition, 60% are abraded and 12% are very abraded. Maximum sherd dimension ranges from 20mm to 140mm and is normally distributed. The mode is 40mm.

5.1.26 Form 30

There are ten sherds weighing 211g, equivalent to ten catalogue entries, which fall under Form 30, the miscellaneous section. These are cat. numbers 213, 432, 536, 1151, 1162, 1204, 1574, 2187, 2260 and 3714.

Four of these are rim sherds which do not fit into any other form category. One of these (no. 432) has applied decoration in the form of motif App.A.i in the neck angle, on a flaring rim where the exterior rim top has been flattened to give an angled outer lip. It also has a diameter of 14cm. Rim no. 1574 has external moulding resulting in an almost T-shaped rim but it is strongly inturning, with a concave bevel providing the ledge surface. Sherd no. 2260 has an internal bevel on a rim with an angled coil break (similar to Form 20) and which probably has a barrel-shaped body, while no. 3714 has a pointed rim with an interior bevel, possibly on an upright vessel.

One sherd defies interpretation. This is no. 1204 which at first glance appears to be a very strongly inturned rim, but the break does not agree with fitting on to any body shape. It looks like a ring, or a base with no centre, or an extreme kind of external or internal ledge.

Of the other five pieces which are not rims, two of these are parts of handles (1151 and 536) which are roughly oval in section and one is part of a lid (2187), or flat disc, which has a stub of circular-sectioned handle attached. Two other pieces of fired clay appear to be wasters (213 and 1162) as they have no discernible coherent shape.

Figure 5-1: Presence of Form 1 by phase

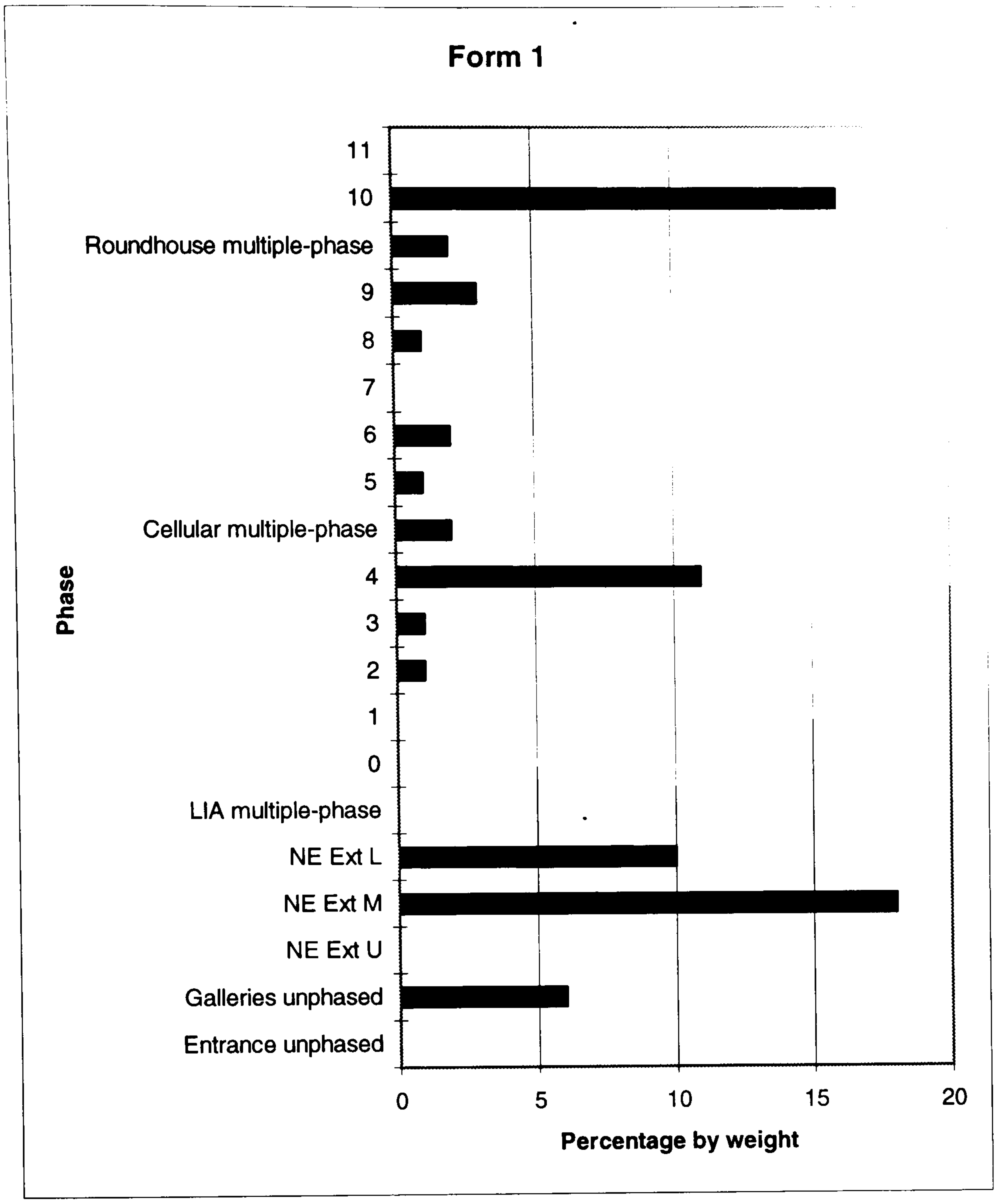


Figure 5-2: Presence of Form 2 by phase

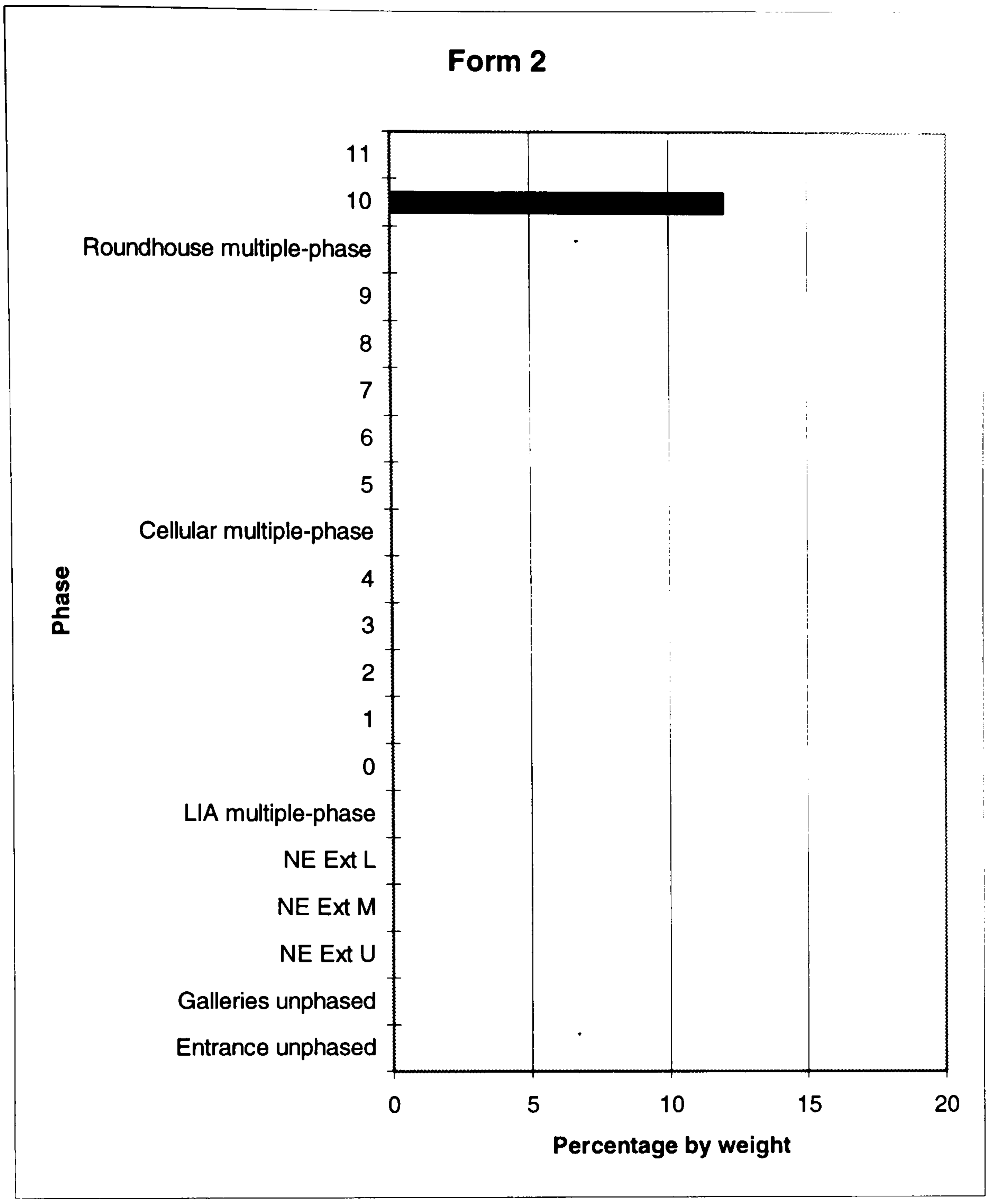


Figure 5-3: Presence of Form 3 by phase

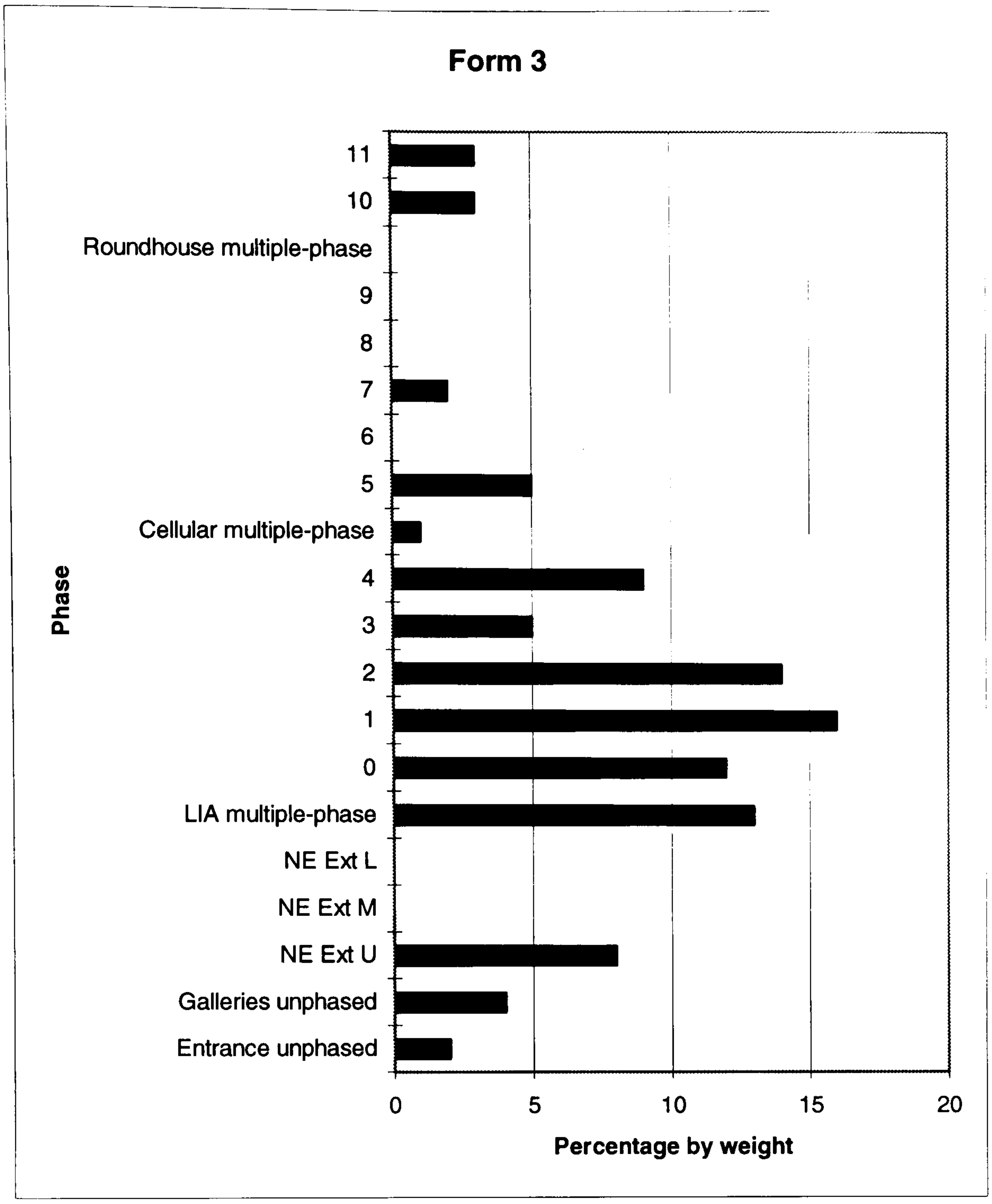


Figure 5-4: Presence of Form 4 by phase

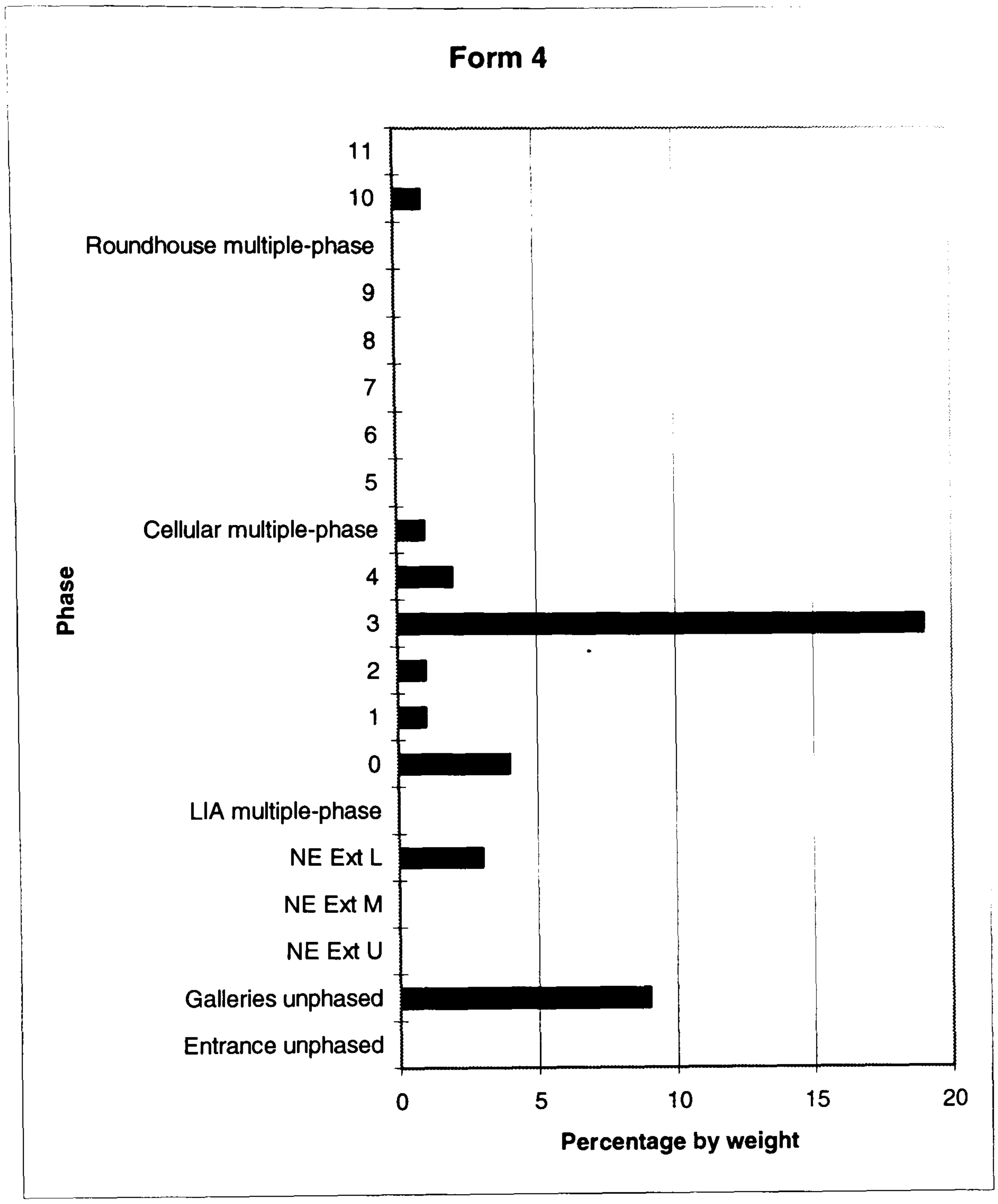


Figure 5-5: Presence of Form 5 by phase

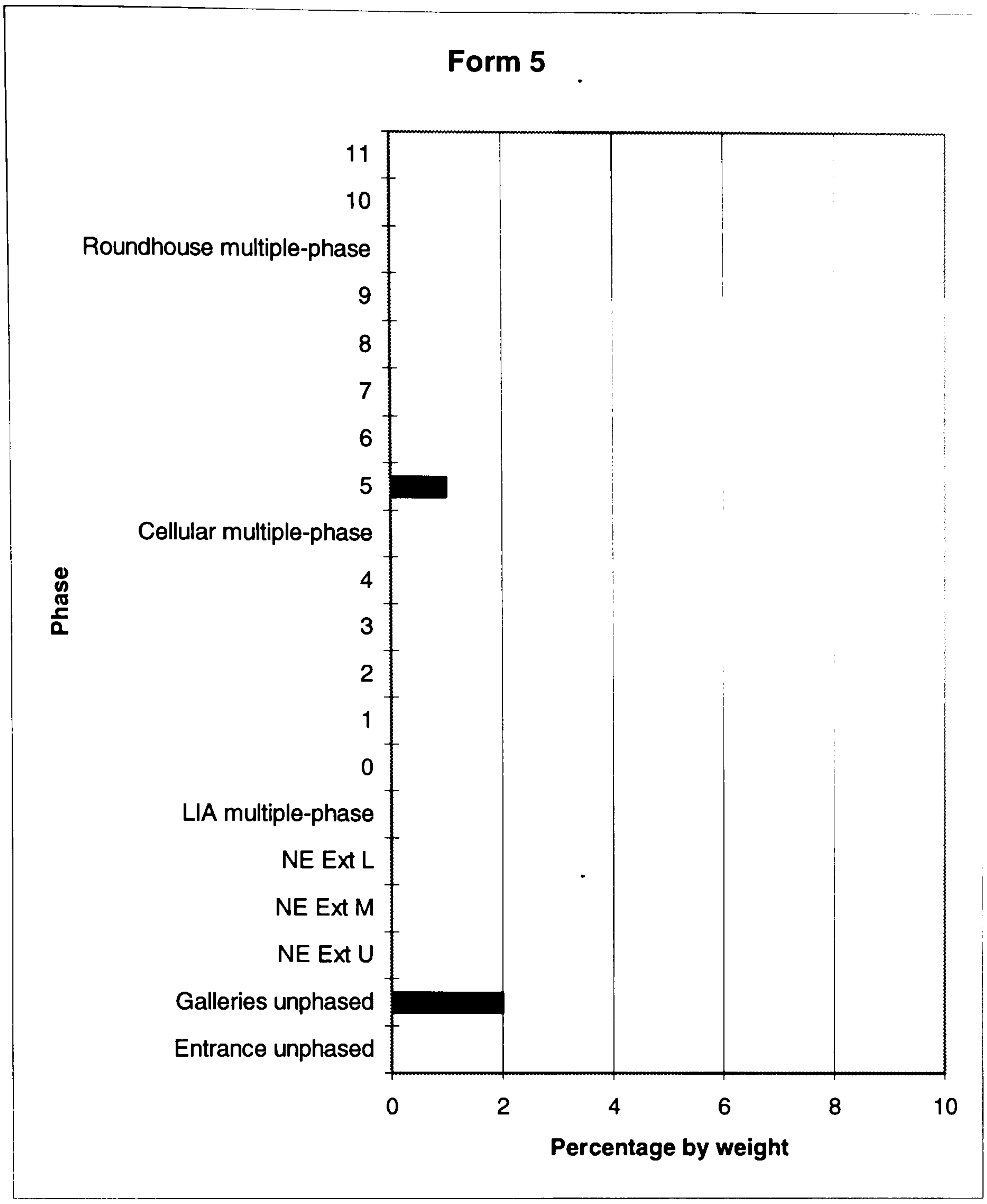


Figure 5-6: Presence of Form 6 by phase

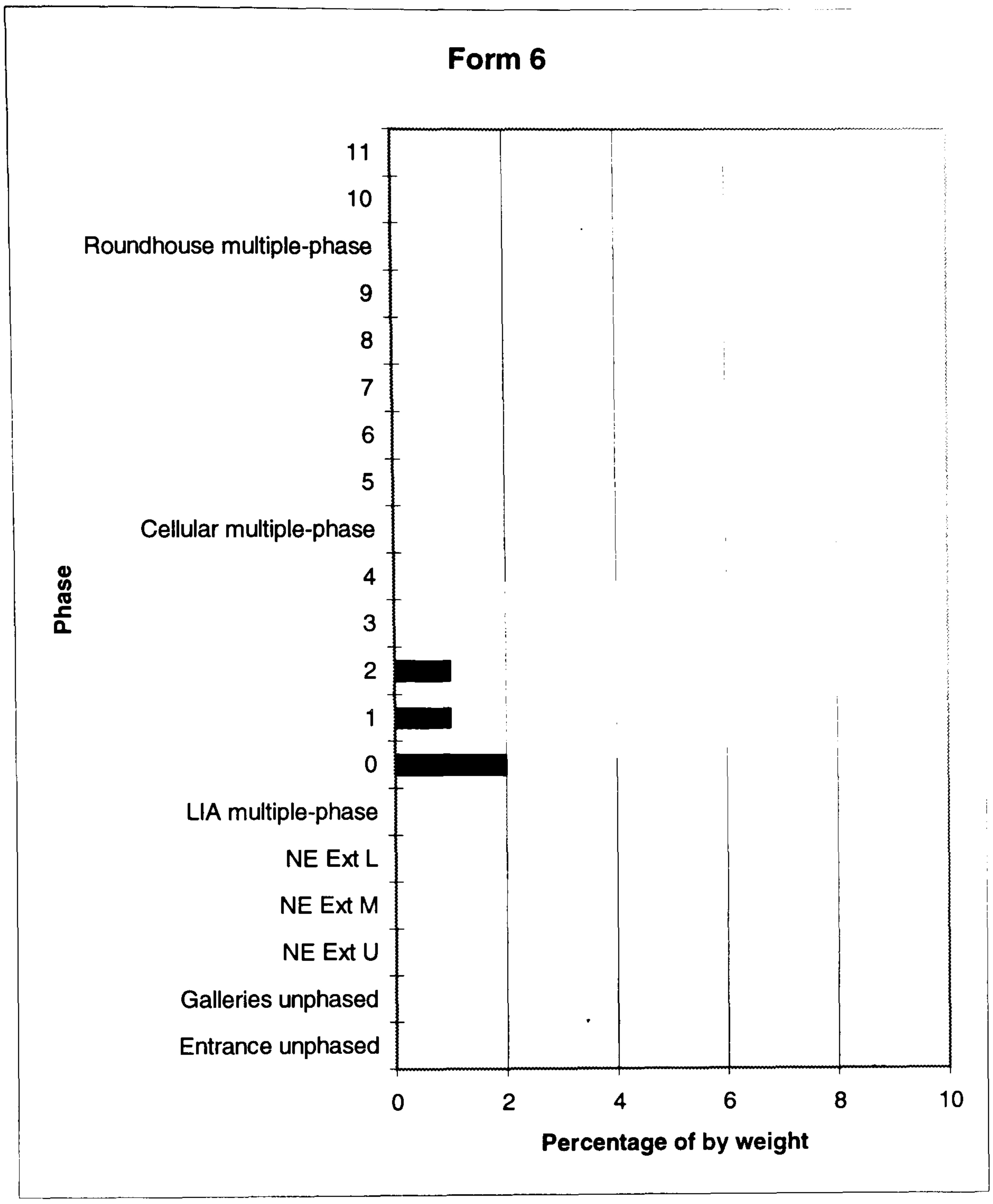


Figure 5-7: Presence of Form 7 by phase

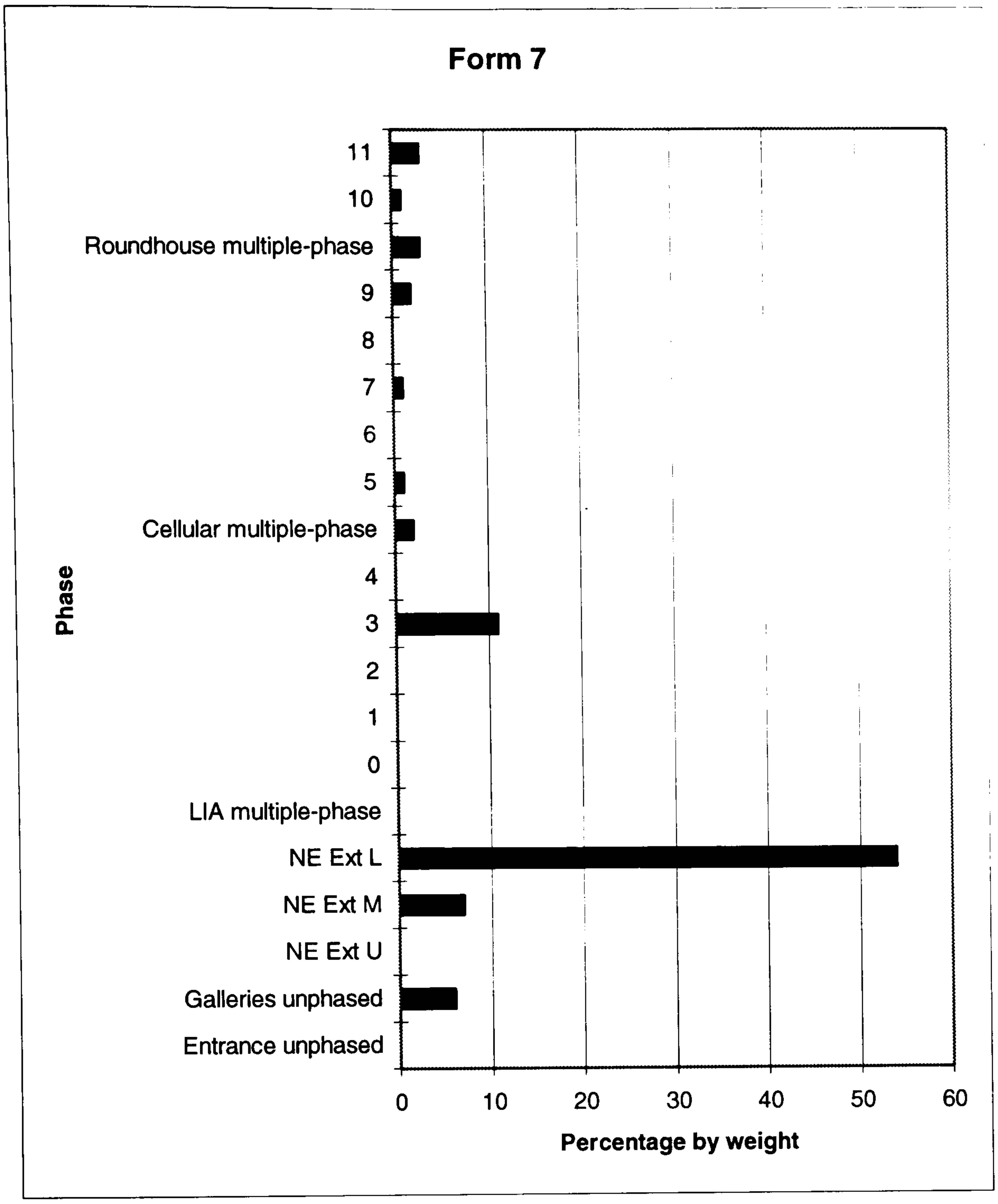


Figure 5-8: Presence of Form 8 by phase

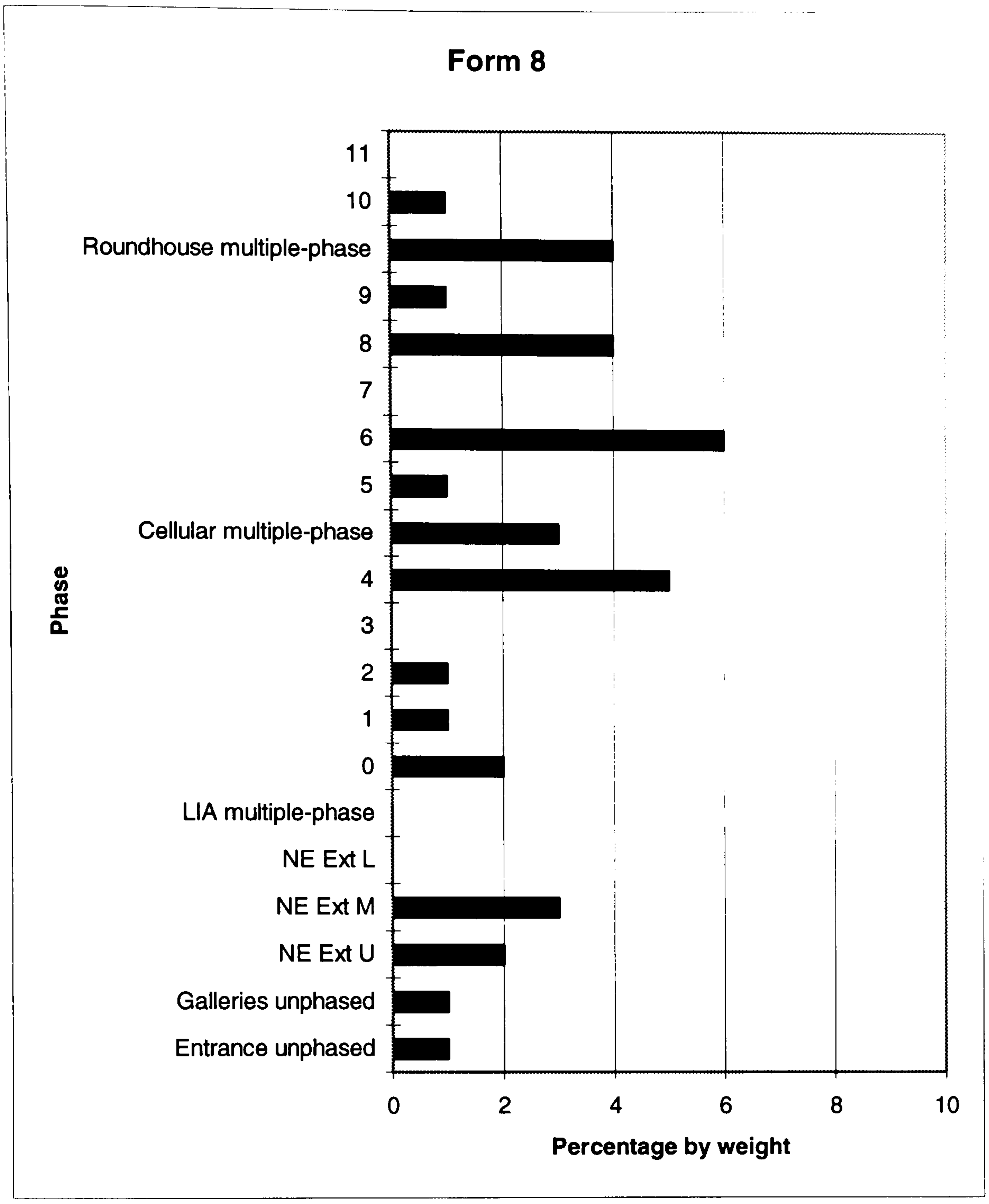


Figure 5-9: Presence of Form 9 by phase

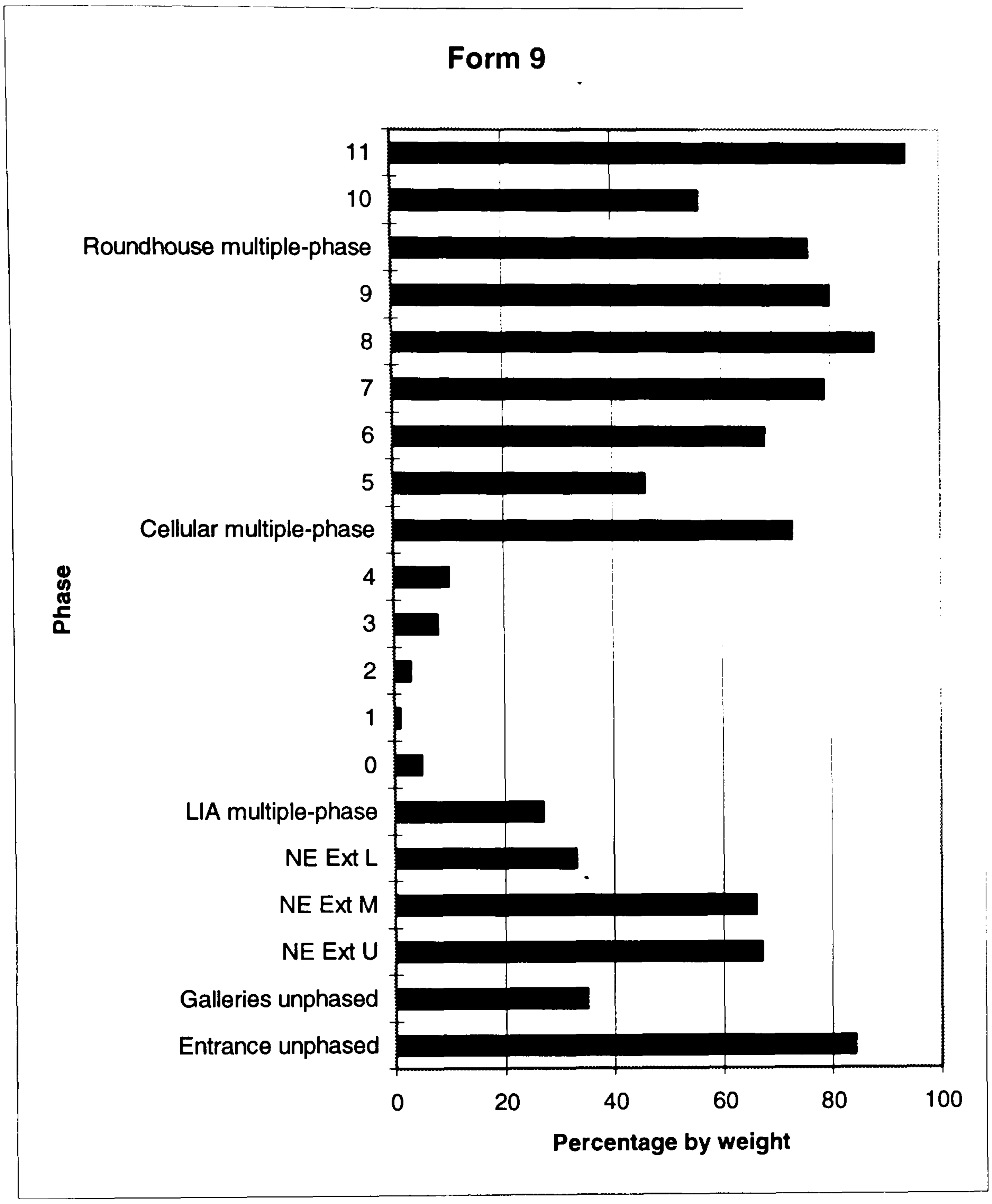


Figure 5-10: Presence of Form 10 by phase

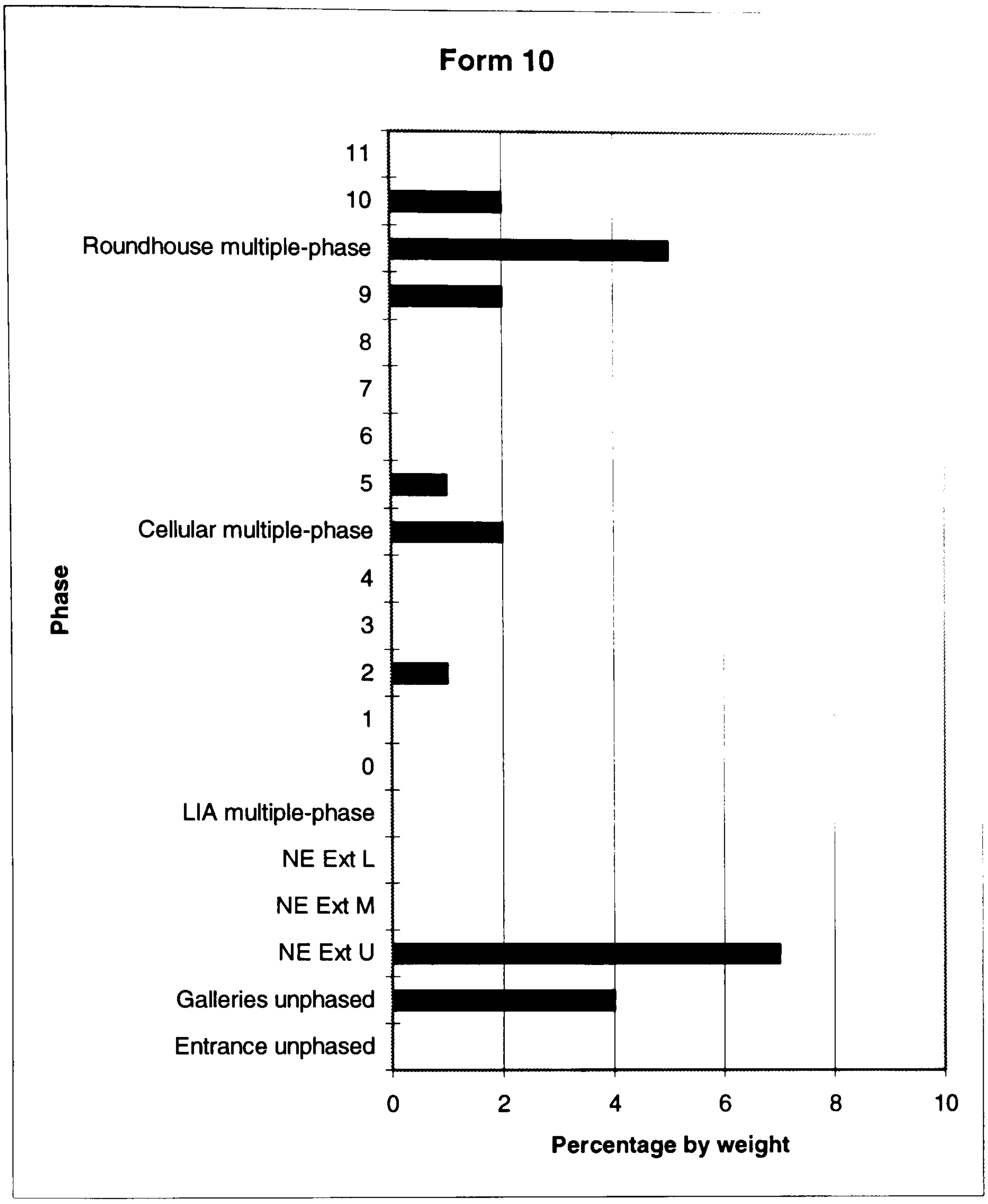


Figure 5-11: Presence of Form 11 by phase

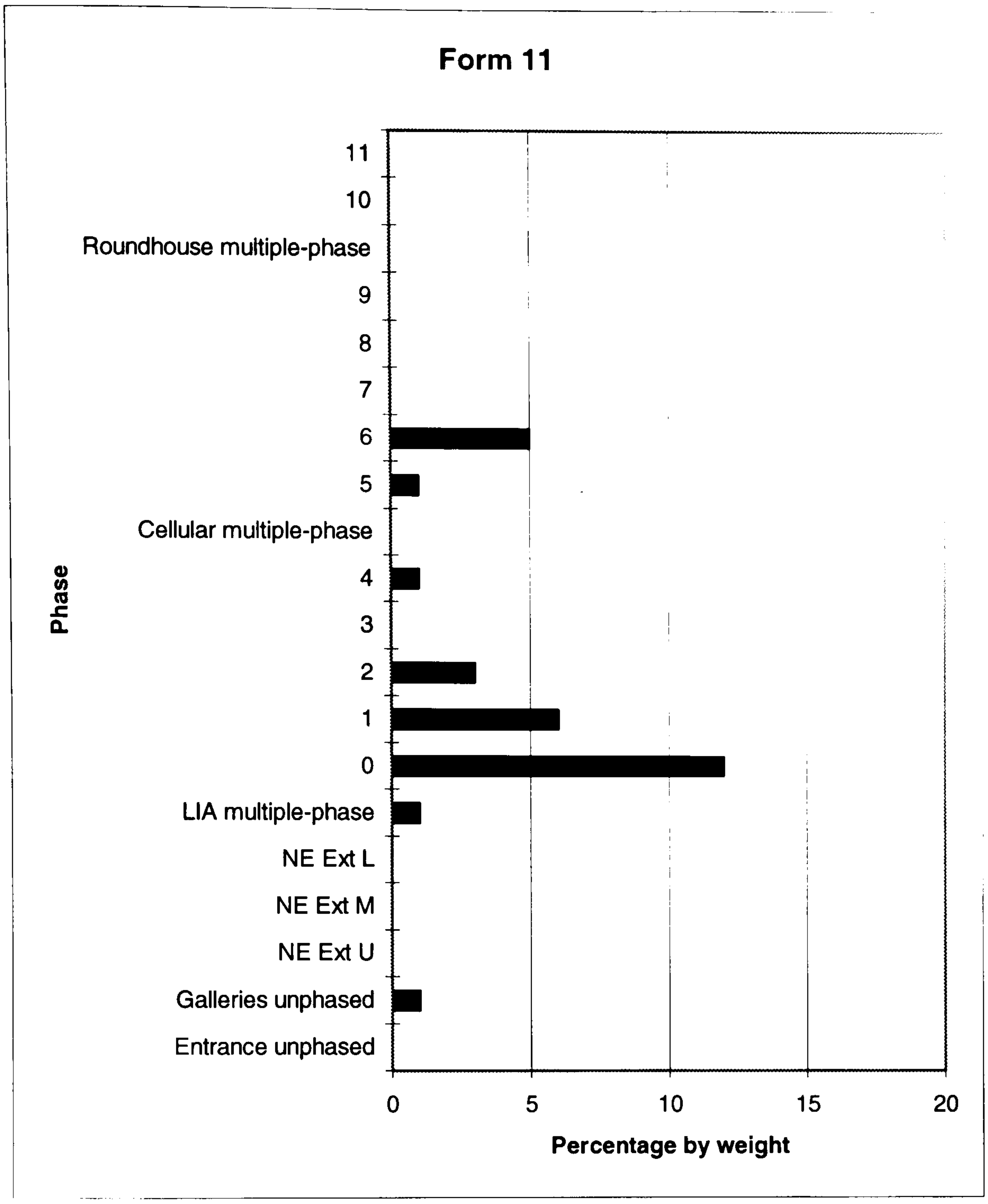


Figure 5-12: Presence of Form 12 by phase

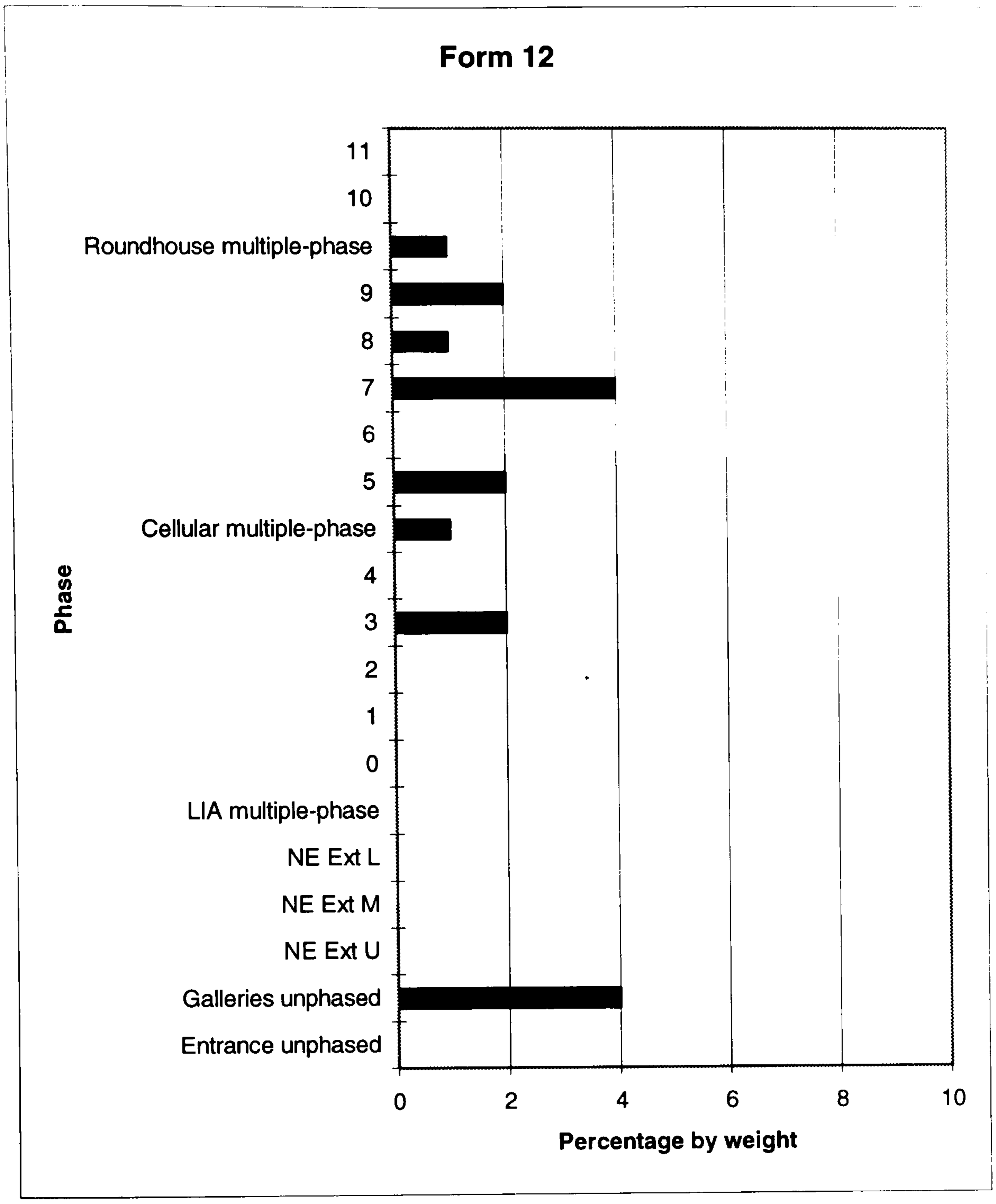


Figure 5-13: Presence of Form 13 by phase

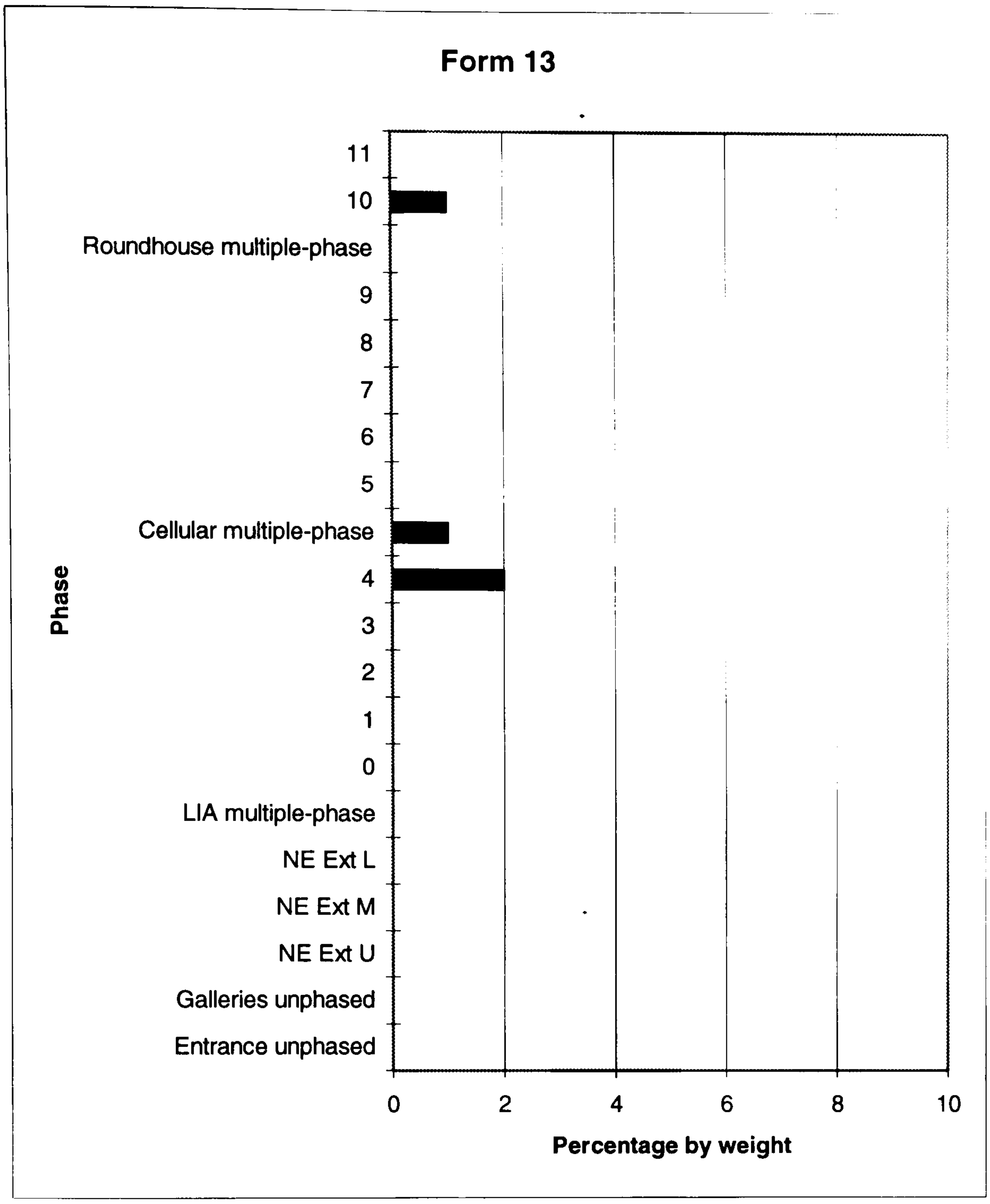


Figure 5-14: Presence of Form 14 by phase

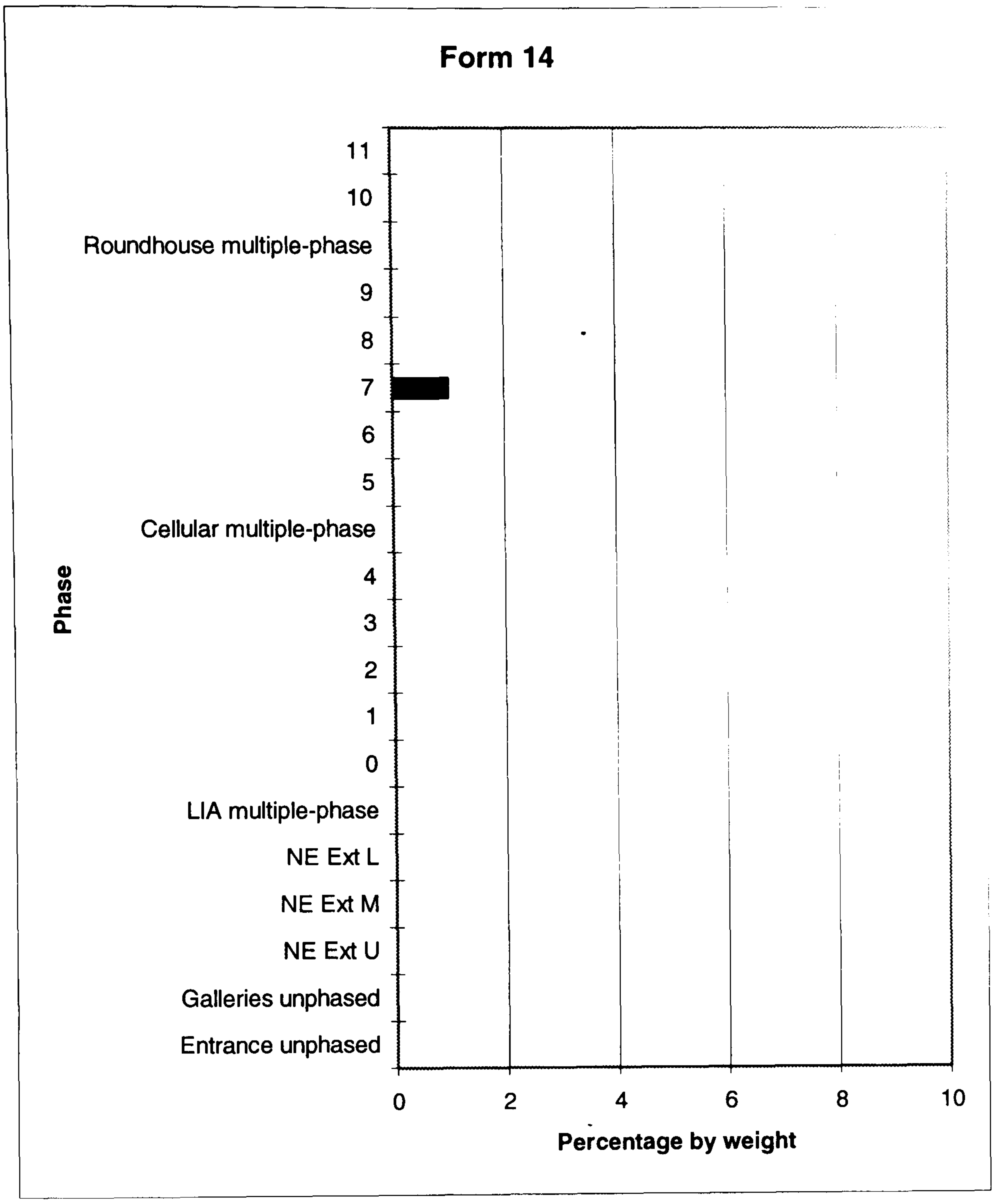


Figure 5-15: Presence of Form 15 by phase

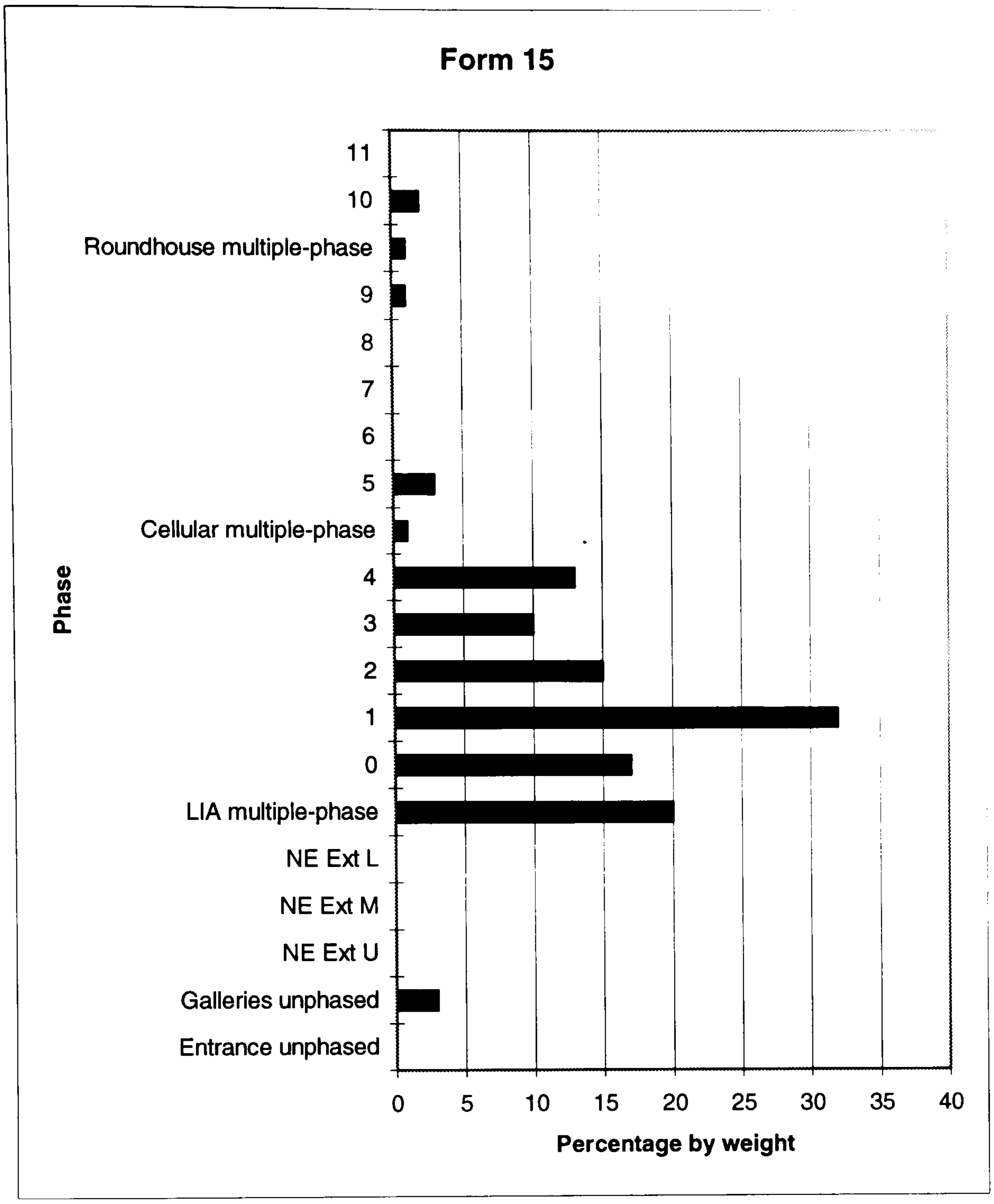


Figure 5-16: Presence of Form 16 by phase

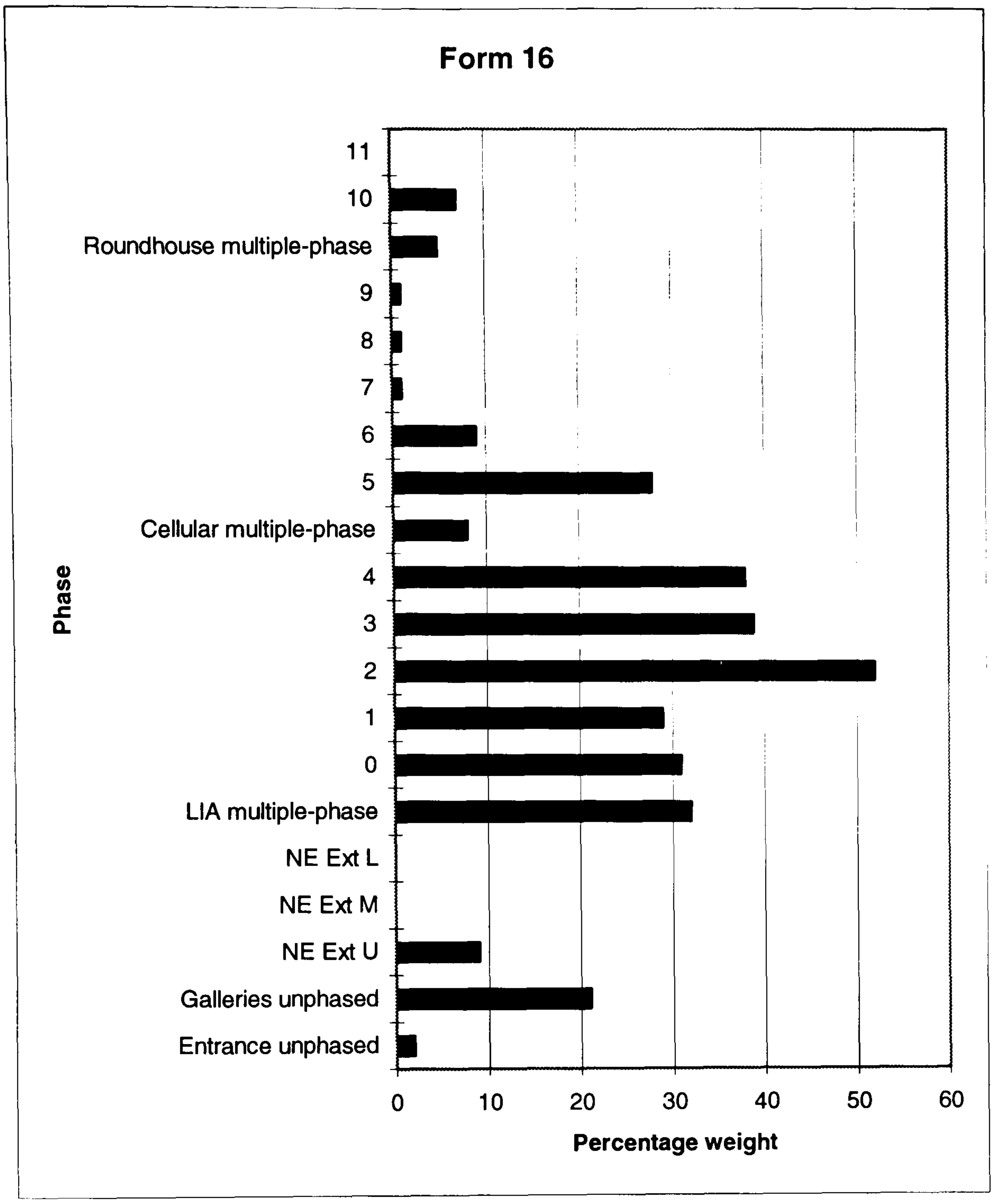


Figure 5-17: Presence of Form 17 by phase

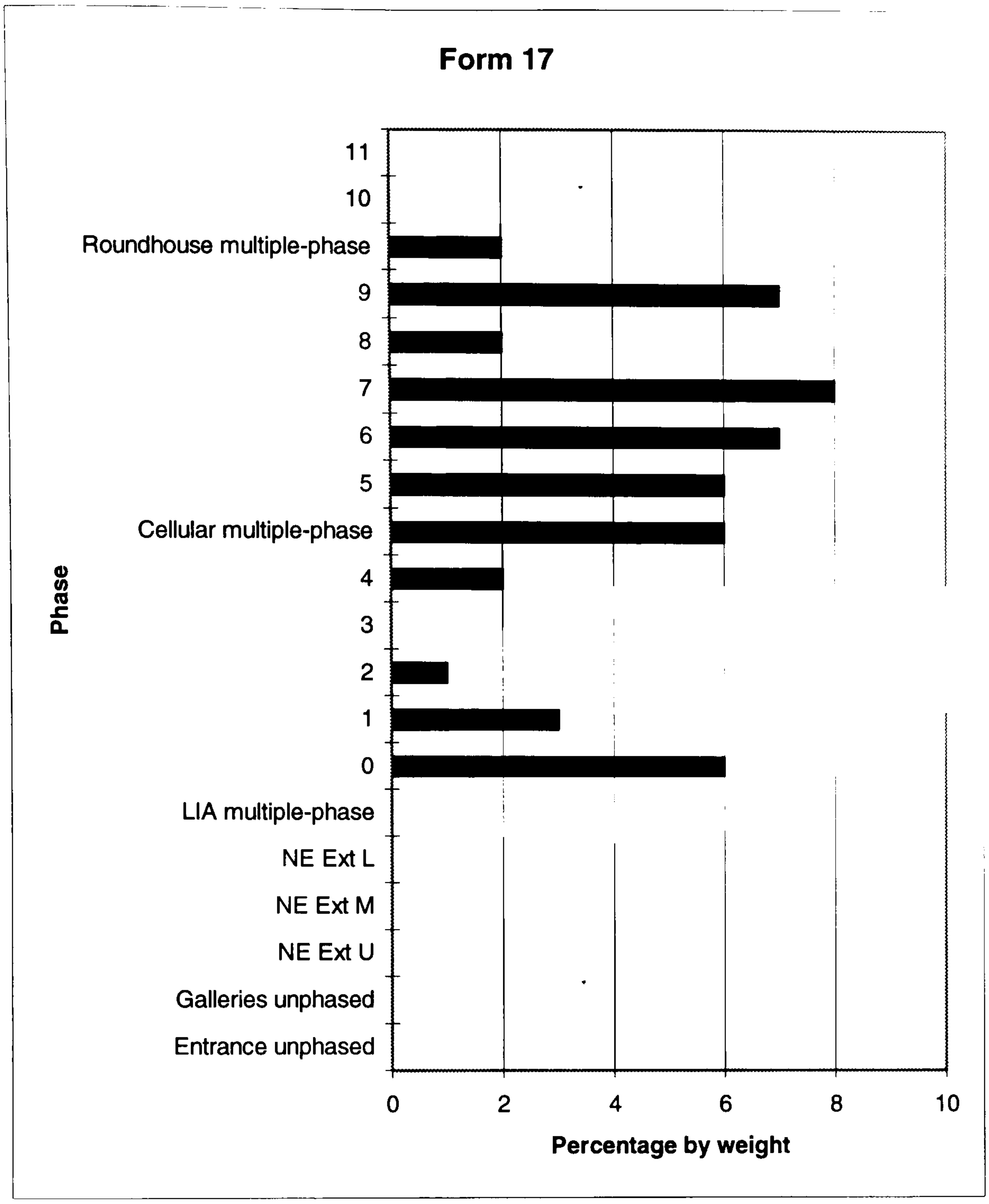


Figure 5-18: Presence of Forms 18-20 by phase

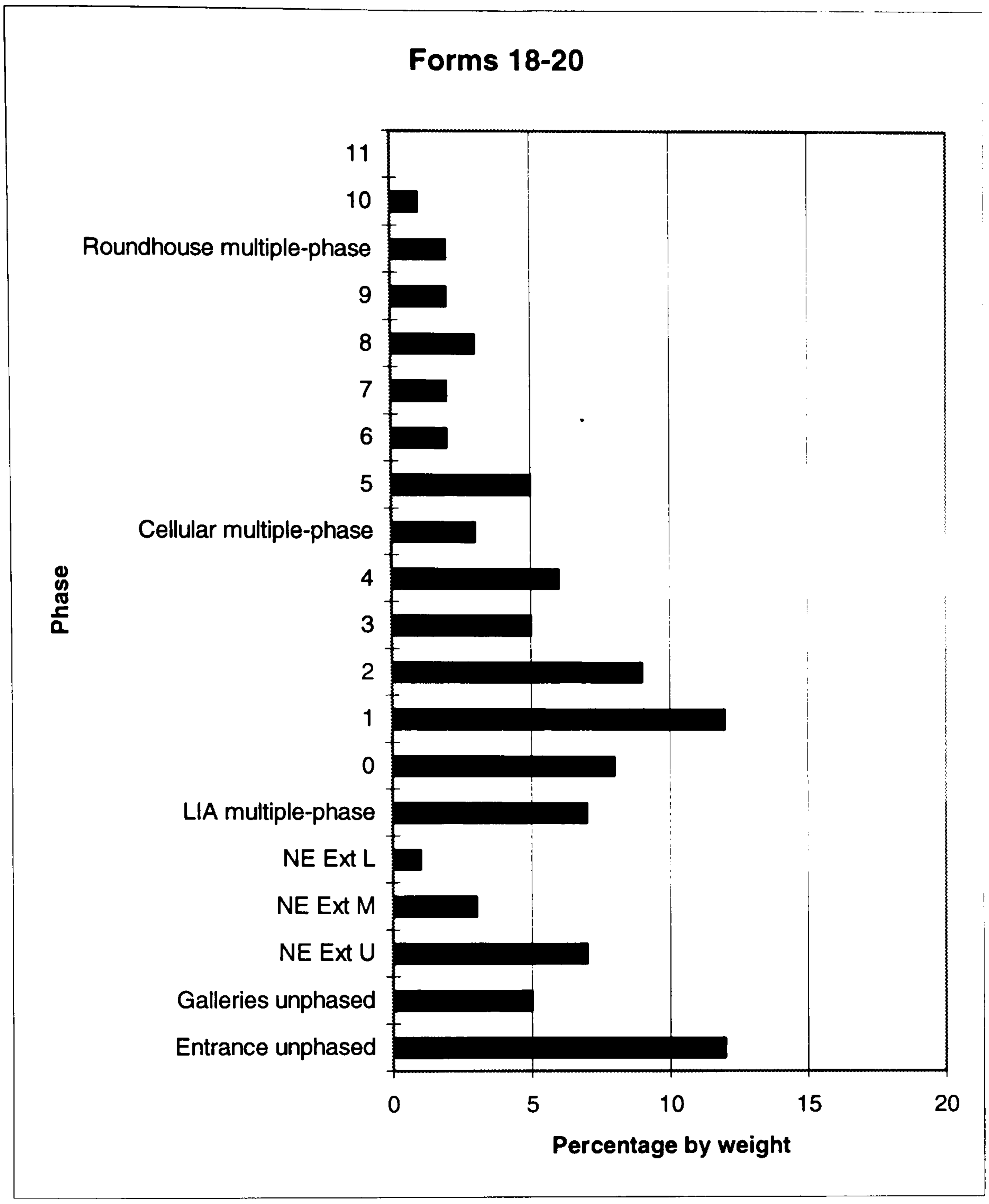


Figure 5-19: Presence of Form 23 by phase

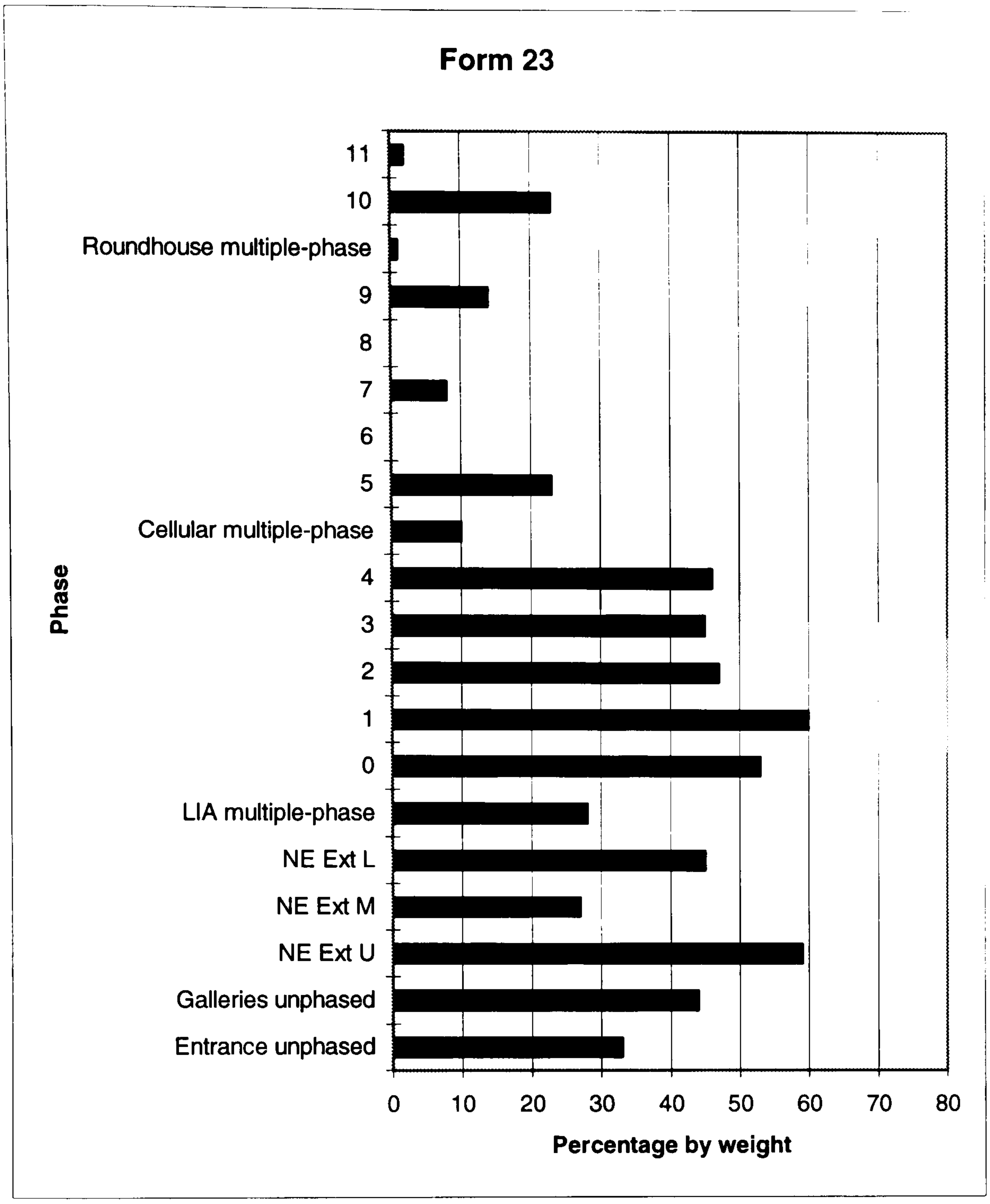


Figure 5-20: Presence of Form 24 by phase

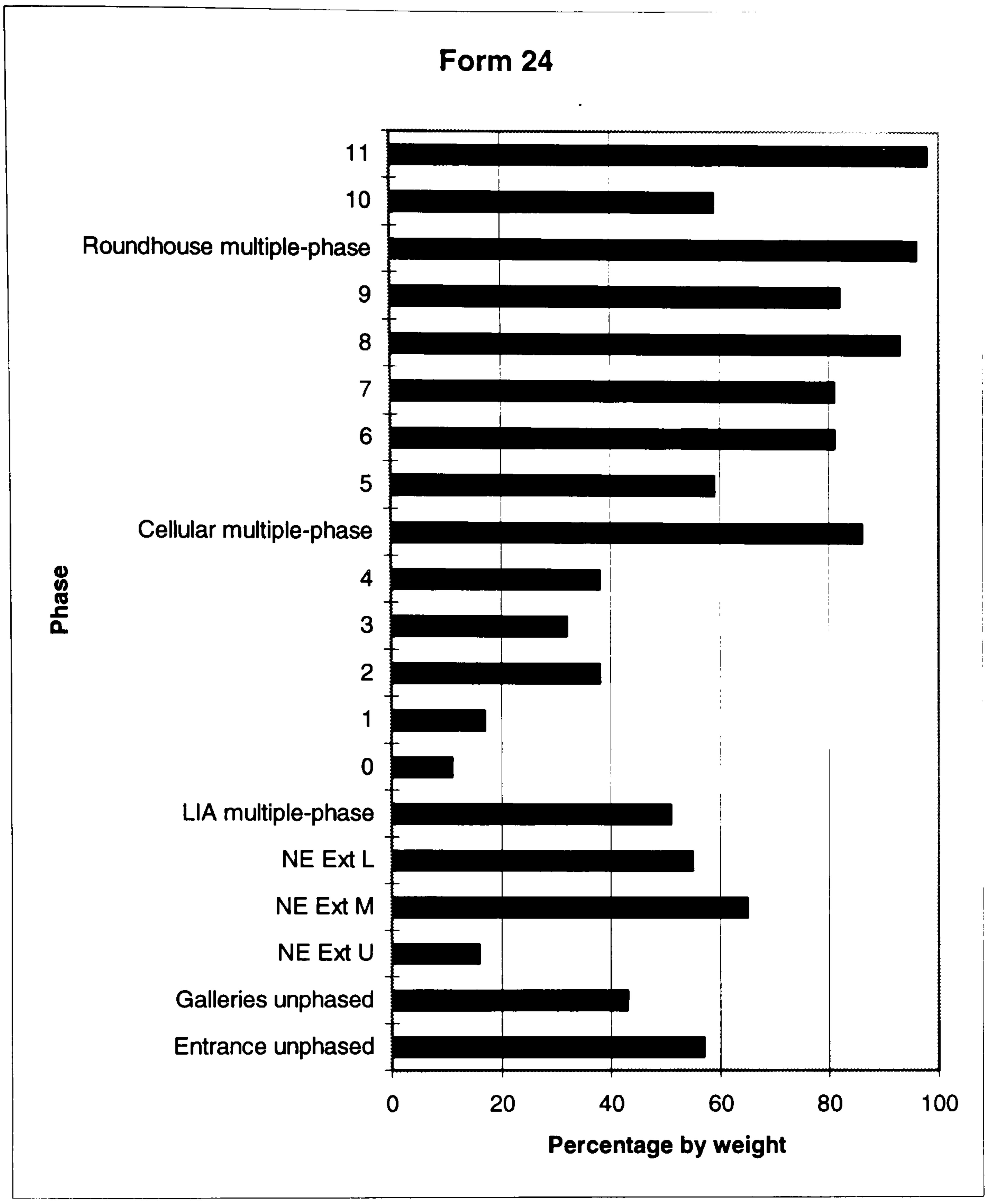


Figure 5-21: Presence of Form 25 by phase

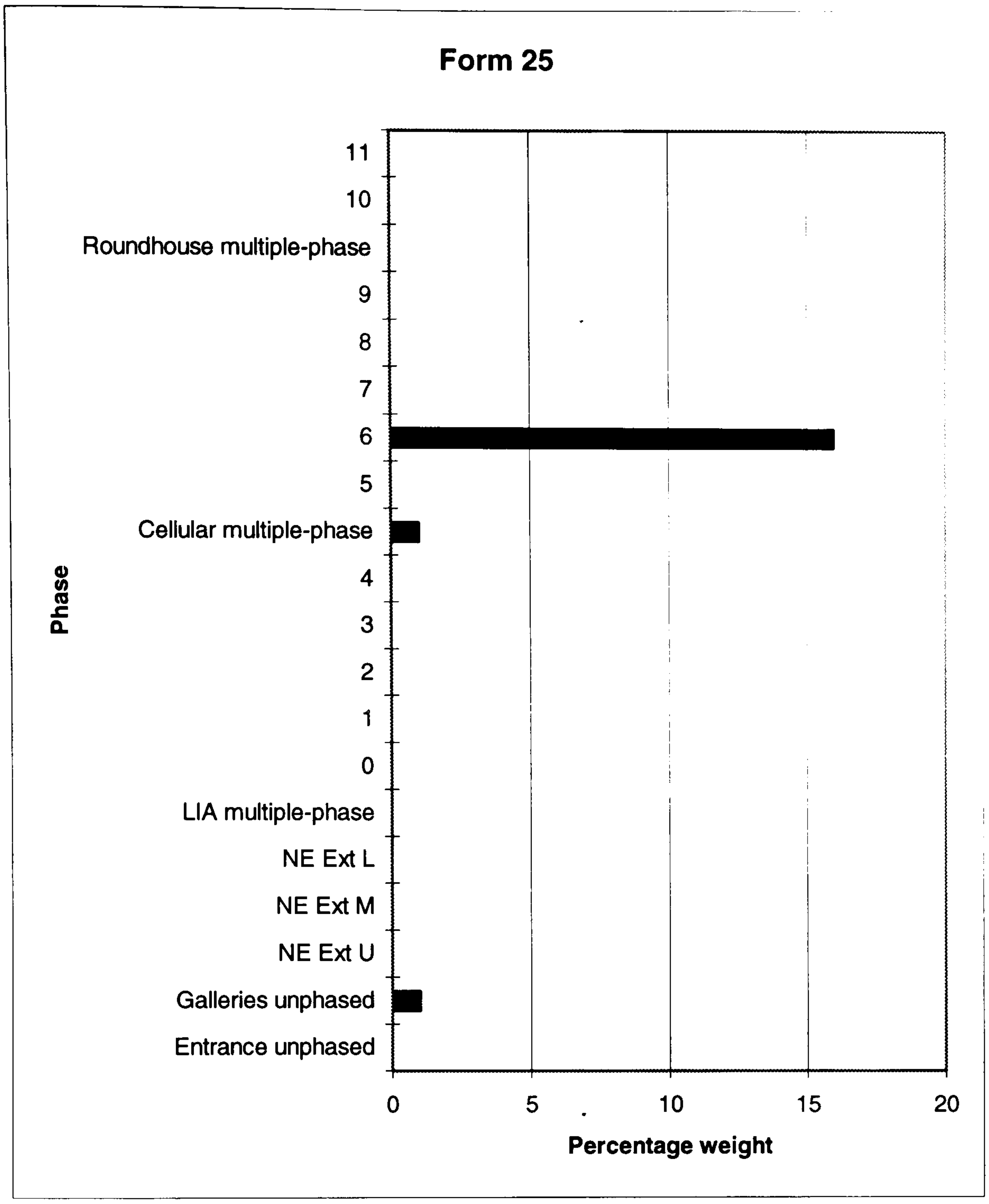


Figure 5-22: Presence of Form 26 by phase

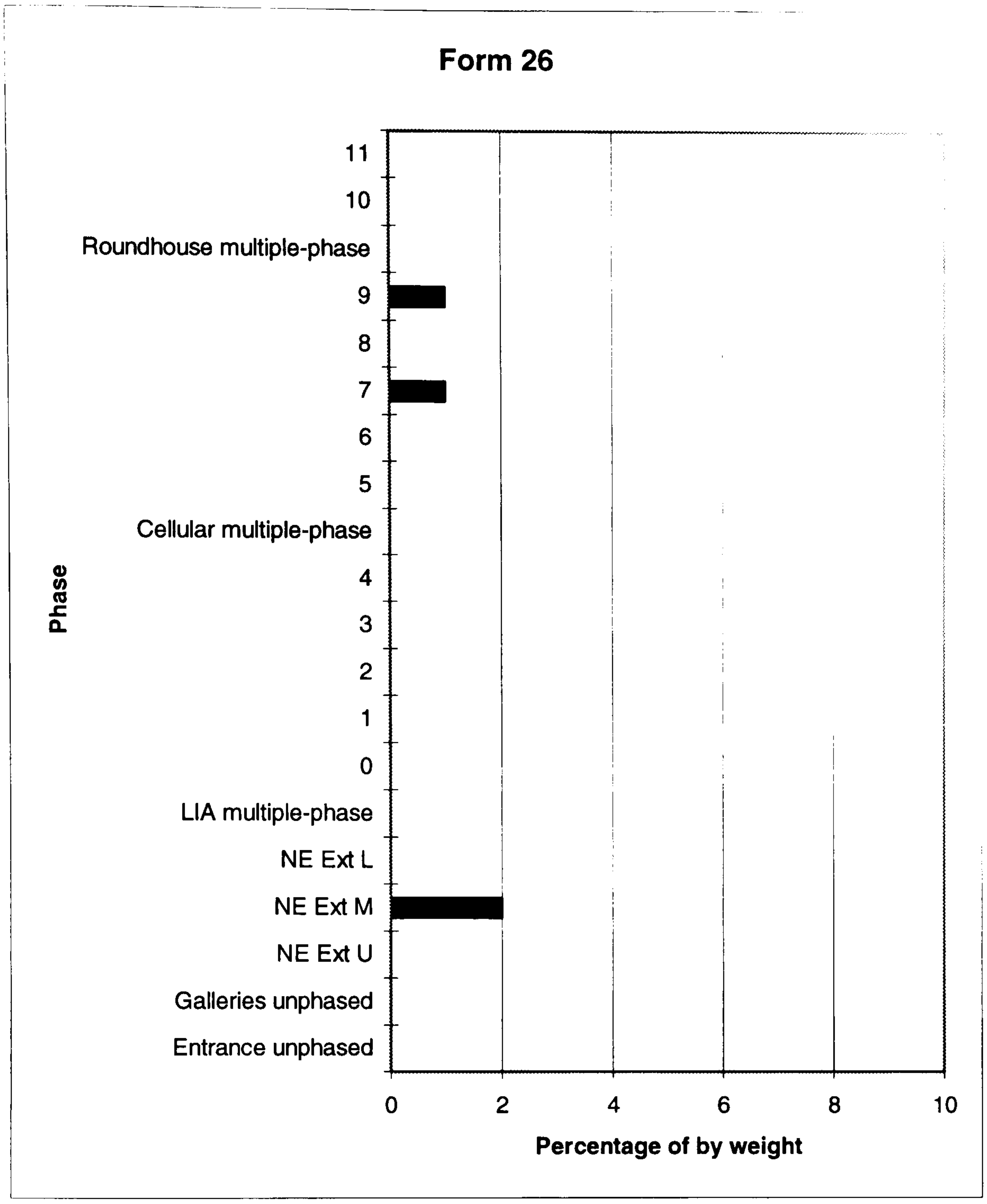
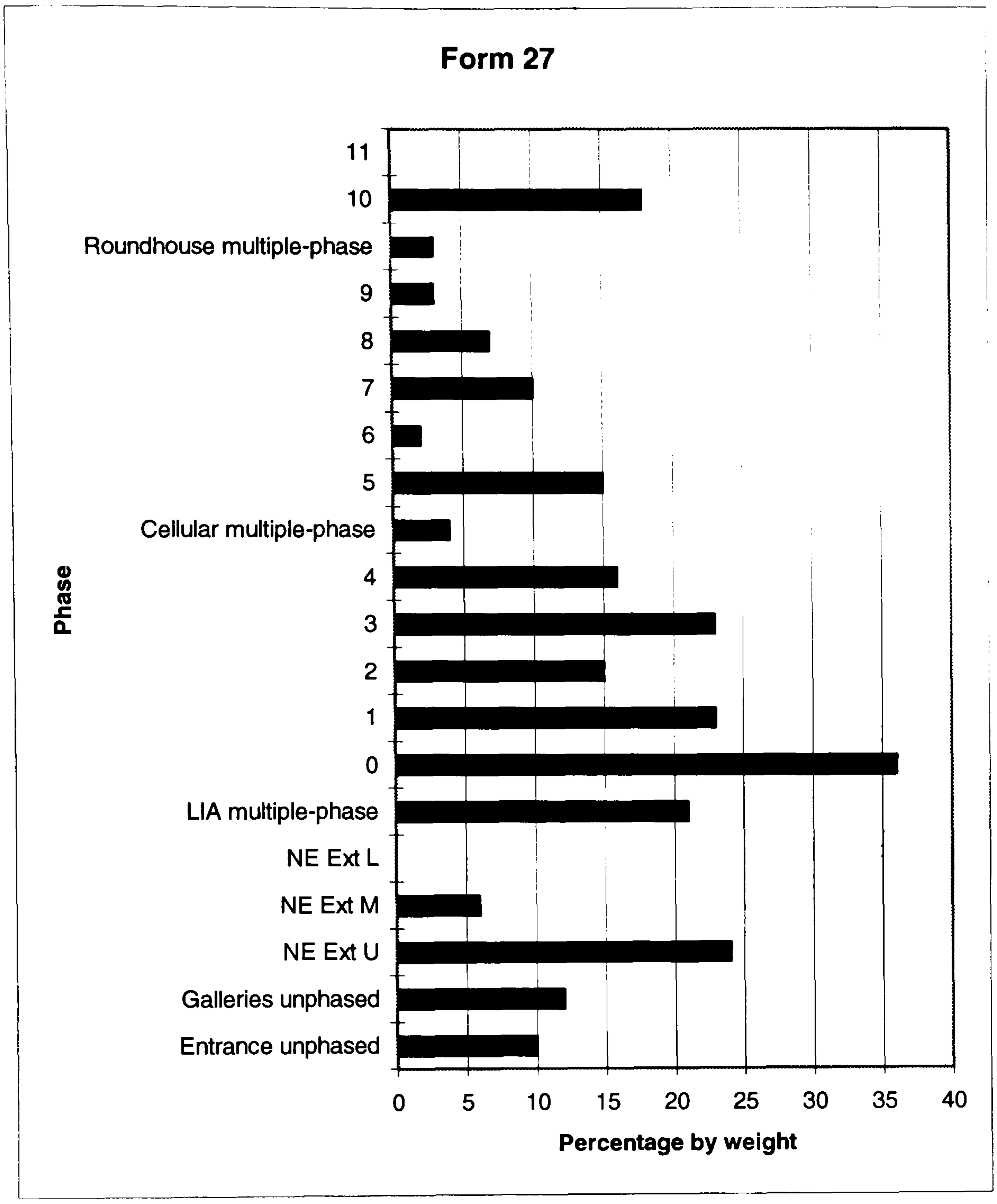


Figure 5-23: Presence of Form 27 by phase



6. The Beirgh Sequence

Moving on from the detailed descriptions of the Beirgh assemblage provided in Chapters 4 and 5, this section introduces the trends seen in each of the main categories and provides illustrations in graphs or tables as appropriate. Each of these categories is divided into analysis by phase and by form, with links drawn between the two where possible.

6.1 Forms

Base Forms

There are a number of forms which have very limited distributions. Form 25 (Fig. 5-21) is only present in Phase 6, Cellular Multiple-phase contexts and Galleries Unphased. Except in Phase 6, where it comprises 16% by weight, it is present in very minor quantities (1% by weight). Its limited presence suggests that this form could be useful as a chronological indicator. It is likely that the sherds from Cellular Multiple-phase and Galleries Unphased are residual, as they are single, small sherds. It has a more significant presence in Phase 6, perhaps indicating a limited use-span for this type of vessel. Form 26 (Fig. 5-22) is only present in Phases 9, 7 and NE Extension Middle at 2% or less by weight. This distribution suggests it would be of limited use as a chronological indicator except in broad terms. It plays a very limited part of the assemblage.

Base Form 24 (Fig. 5-20) is more common in the earlier phases than the later, comprising generally over 80% by weight of the base forms present during the Roundhouse and Cellular phases. This reduces to less than 40% in the Late Iron Age phases, reaching a minimum of 11% in Phase 0. This pattern is repeated in the NE Extension. Conversely, Form 23 (Fig. 5-19) is not present in all sub-phases of the

Cellular phase, and where it is it comprises less than 25% by weight of the base forms. It is, however, the more common form during the Late Iron Age phases, generally present at between 40% and 60% in all sub-phases. This pattern is not very strong and does not produce a straightforward presence/absence type of pattern. Instead, both forms are present throughout the sequence but their proportions differ over time. In this respect then, the types of base forms which may be present on a site do not provide enough clarity to be useful as dating tools but are rather general indicators which can be used in conjunction with other characteristics.

Form 27 (Fig. 5-23), encompassing base forms which are undistinguished and whose vessel shape cannot be determined, are present throughout the sequence but are more common during the Late Iron Age phases, reaching a maximum of 36% by weight in Phase 0. This effect may be related to sherd size and abrasion, indicating that earlier sherds are more complete and hence can have a form assigned to them, while later sherds are more fragmentary. Abrasion is discussed in more detail in Section 6.10.

Rim Forms

Form 1 (Fig. 5-1) is present in a number of phases, reaching its highest proportions during Phases 10 and NE Extension Middle at between 15% and 20% by weight of all rim forms. It also has a high presence (between 5% and 15% by weight) in Phases 4, NE Extension Lower and the Galleries Unphased. In all other phases where it is present, it comprises less than 5% of the assemblage by weight. It is absent from Phases 11, 1, 0 and NE Extension Upper. Its high percentage by weight in Phase 4 has been skewed by the presence of only two vessels of Form 1 (cat. nos. 153 and 2072), one of which (no. 2072) comprises just 4 sherds weighing 376g, which is a fairly substantial portion of the vessel.

Form 2 (Fig. 5-2) is only present in Phase 10, comprising 12% of the assemblage, suggesting a short-lived period of use for this vessel type. Its limited presence suggests that this form would be useful as a chronological indicator.

Form 3 (Fig. 5-3) is more common during the Late Iron Age phases, at generally between 5% and 15% by weight. It reaches its maximum in Phase 1, at 16% by weight. It is present in small quantities (less than 5% by weight) during some of the Roundhouse and Cellular phases (Phases 11, 10, 7, 5). It is only present in the Upper Phase of the NE Extension deposits.

Form 4 (Fig. 5-4) is generally present only in the Late Iron Age phases reaching its maximum in Phase 3 where it makes up almost 20% by weight. It is, however, also present in Phase 10, the unphased Galleries, Cellular Multiple-phase contexts and NE Extension Lower, at generally less than 5% by weight.

Form 5 (Fig. 5-5) is found only in Phases 5 and the unphased Galleries in small quantities (2% or less by weight), suggesting that this form may have use as a chronological indicator.

Form 6 (Fig. 5-6) is found only in the Late Iron Age Phases 0, 1 and 2 in small quantities (2% or less by weight), suggesting that this form may have use as a chronological indicator.

Form 7 (Fig. 5-7) is present throughout the Roundhouse and Cellular phases in low quantities, at less than 10%. It is present in Phase 3 (at 11% by weight), the only phase of the Late Iron Age where it is found, where just one vessel (cat. no. 2168) comprises four sherds weighing 126g, resulting in this form's over-representation. It also comprises over 50% of the NE Extension Lower assemblage and less than 10% of the NE Extension Middle and Galleries Unphased.

Form 8 (Fig. 5-8) is present in many phases throughout the sequence in low quantities, always at 6% or less. It is absent from Phases 11, 7, 4 and NE Extension Lower.

Form 9 (Fig. 5-9) is the most common form during the Roundhouse and Cellular phases, comprising generally over 60% by weight of all rims, whereas in the Late Iron Age phases it is reduced to less than 10% by weight. There is a marked reduction in its frequency in Phase 5, to 46%. There is an increase in its overall percentage between the NE Extension Lower and NE Extension Middle phases, from 33% to 66%. In the NE Extension Upper it stays level at 67%.

Form 10 (Fig. 5-10) is present sporadically in a number of phases with little apparent patterning (Phases 10, 9, 5, 2, NE Extension Upper), although it could be said to be more common during the earlier phases than during the Late Iron Age. However, it never comprises more than 7% of the assemblage by weight in each phase.

Form 11 (Fig. 5-11) is present, from Phase 6 onwards, in the later Cellular phases and the Late Iron Age phases, although it is absent from Phase 3. It reaches a maximum of 12% by weight in Phase 0.

Form 12 (Fig. 5-12) is present primarily in the Cellular phases at 4% or less by weight, with 2% or less appearing in Phases 3 and Roundhouse Multiple-phase contexts.

Form 13 (Fig. 5-13) has a limited distribution and is only present in Phases 4, 10, and Cellular Multiple-phase contexts, always at 2% or less.

Form 14 is only present in Phase 7 (Fig. 5-14), and corresponds to just one identified vessel (cat. no. 2180). This vessel could be a one-off, a vessel shape made once and then never repeated.

Form 15 (Fig. 5-15) is present in small quantities (less than 5% by weight) during a few of the Roundhouse and Cellular sub-phases, notably 10, 9 and 5. It becomes a more substantial component of the assemblage during the Late Iron Age where it constitutes between 10% and 35%.

Form 16 (Fig. 5-16) is present in small quantities (less than 10%) during the Roundhouse and Cellular phases. There is a significant rise in Phase 5 to 28%, after which it comprises generally more than 30% of the assemblage throughout the Late Iron Age and reaches a maximum of 52% in Phase 2. It is absent from the NE

Extension Lower and Middle phases, appearing in the NE Extension Upper phase at 21% of the assemblage by weight.

Form 17 (Fig. 5-17) is not present in any of the NE Extension phases or in Phases 10 and 11. It is more common during the Cellular phases than during the late Iron Age phases, although its proportion overall in any given phase is always lower than 10%.

Forms 18 to 20 (Fig. 5-18), rim forms which are undistinguished and whose form cannot be determined, are less common during the earlier phases of the site, though at no time do they comprise much more than 10% by weight of any given phase. The increase in proportion in the later phases is probably due to the change seen in predominant rim form. Everted rims, when broken, are probably more readily recognised than the typical Late Iron Age forms, due to the nature of manufacture and the most likely position of the break.

6.2 Fabric

6.2.1 By Phase

In some of the early phases (Phase 11, 10, 9 and 6) medium fabrics are the most common fabric type, with fine fabrics comprising the second most common. In these same phases, fabrics without vegetal impressions and/or temper are more common than those with, while moderate quantities of inclusions are also typical. In the remaining Cellular phases, 7 and 8, medium fabrics remain the most common but coarse fabrics become the second most common fabric type. The majority of fabrics are without vegetal impressions and/or temper and have moderate inclusions. In Phase 5, although medium fabrics dominate, common inclusions are slightly more frequent. Fabrics without vegetal impressions and/or temper are still more common than those with.

In the later phases (Phases 0, 1 and 4) there is a switch, and coarse fabrics are present in a slightly higher proportion than medium fabrics. Phases 2 and 3 have roughly equal quantities of medium and coarse fabrics. Common inclusions are more frequent than other types, and fabrics without vegetal impressions and/or temper are more common than those with.

In the NE Extension Lower phase, fine fabrics are in the majority, along with those with moderate inclusions and vegetal impressions and/or temper. In the NE Extension Middle and Upper phases, medium fabrics are the most common with coarse fabrics in the minority. Moderate inclusions are more frequent than other types, and fabrics without vegetal impressions and/or temper are more common than those with.

Broadly then, there is a change from medium fabrics with moderate quantities of inclusions in the Roundhouse and Cellular phases, to coarse fabrics with common inclusions in the Late Iron Age phases. Only one phase had fine fabrics forming the majority and that is the NE Extension Lower phase. Generally, all of the phases have a majority of sherds without vegetal impressions and/or temper, except Phases 10 and NE Extension Lower, which have a majority of sherds with vegetal impressions and/or temper (Fig. 6-1). The increase in Phase 10 is likely to be due to the presence of Form 2 sherds within that phase, which, as discussed above, are only present in Phase 10. As will be seen below, all of the sherds of Form 2 have vegetal impressions and/or temper visible.

The table below (Table 6-1) provides information by phase on the most frequent fabric type, the most frequent quantity of inclusions recorded, and whether a majority of sherds have vegetal impressions and/or temper present or not.

Table 6-1: Fabric types by phase

Phase	Most frequent fabric	Most frequent quantity of inclusions	Majority vegetal impressions and/or temper
11	Medium	Moderate	Without
10	Medium	Moderate	With
Roundhouse	Medium	Moderate	Without
9	Medium	Common	Without
8	Medium	Moderate	Without
7	Medium	Moderate	Without
6	Medium	Moderate	Without
5	Medium	Common	Without
Cellular	Medium	Common	Without
4	Coarse	Common	Without
3	Medium/coarse	Common	Without
2	Medium	Common	Without
1	Coarse	Common	Without
0	Coarse	Common	Without
LIA	Medium	Common	Without
NE Ext L	Fine	Moderate	With
NE Ext M	Medium	Moderate	Without
NE Ext U	Medium	Moderate	Without
Galleries	Medium	Moderate	Without
Entrance	Medium	Common	Without

6.2.2 By Form

Analysis was carried out on fabric types by form. The results do show variation between forms (Fig. 6-2), suggesting that different choices may have been made in the selection of fabrics for different vessel types. The explanation for this patterning will be explored in Chapter 7.

Forms 1, 2, 4, 5, 7, 13 and 25 have a majority of sherds with vegetal impressions and/or temper present. Forms which tend to have coarse fabrics comprise Forms 3, 5, 11, 12, 13, 23. Forms which tend to have fine fabrics comprise: Forms 4, 7, 14, 25, 26, and 28. The remaining forms tend to have medium fabrics.

The table below (Table 6-2) provides information by form on the most frequent fabric type, the most frequent quantity of inclusions recorded, and whether a majority of sherds have vegetal impressions and/or temper present or not.

Table 6-2: Fabric types by form

Form	Most frequent fabric	Most frequent quantity of inclusions	Majority vegetal impressions and/or temper
1	Medium	Abundant	With
2	Medium	Moderate	With
3	Coarse	Moderate	Without
4	Fine	Common	With
5	Coarse	Abundant	With
6	Medium	Moderate	Without
7	Fine	Moderate	With
8	Medium	Moderate	Without
9	Medium	Moderate	Without
10	Medium	Abundant	Without
11	Coarse	Common	Without
12	Coarse	Sparse & abundant	Without
13	Coarse	Common	With
14	Fine	Moderate	Without
15	Medium	Common	Without
16	Medium	Common	Without
17	Medium	Common	Without
21	Medium	Sparse	Without
22	Medium	Sparse	Without
23	Coarse	Common	Without
24	Medium	Common	Without
25	Fine	Moderate	With
26	Fine	Moderate	Without
28	Fine	Moderate	Without
29	Medium	Moderate	Without

Figure 6-1: Proportion of fabrics with/without organic impressions and/or temper by phase

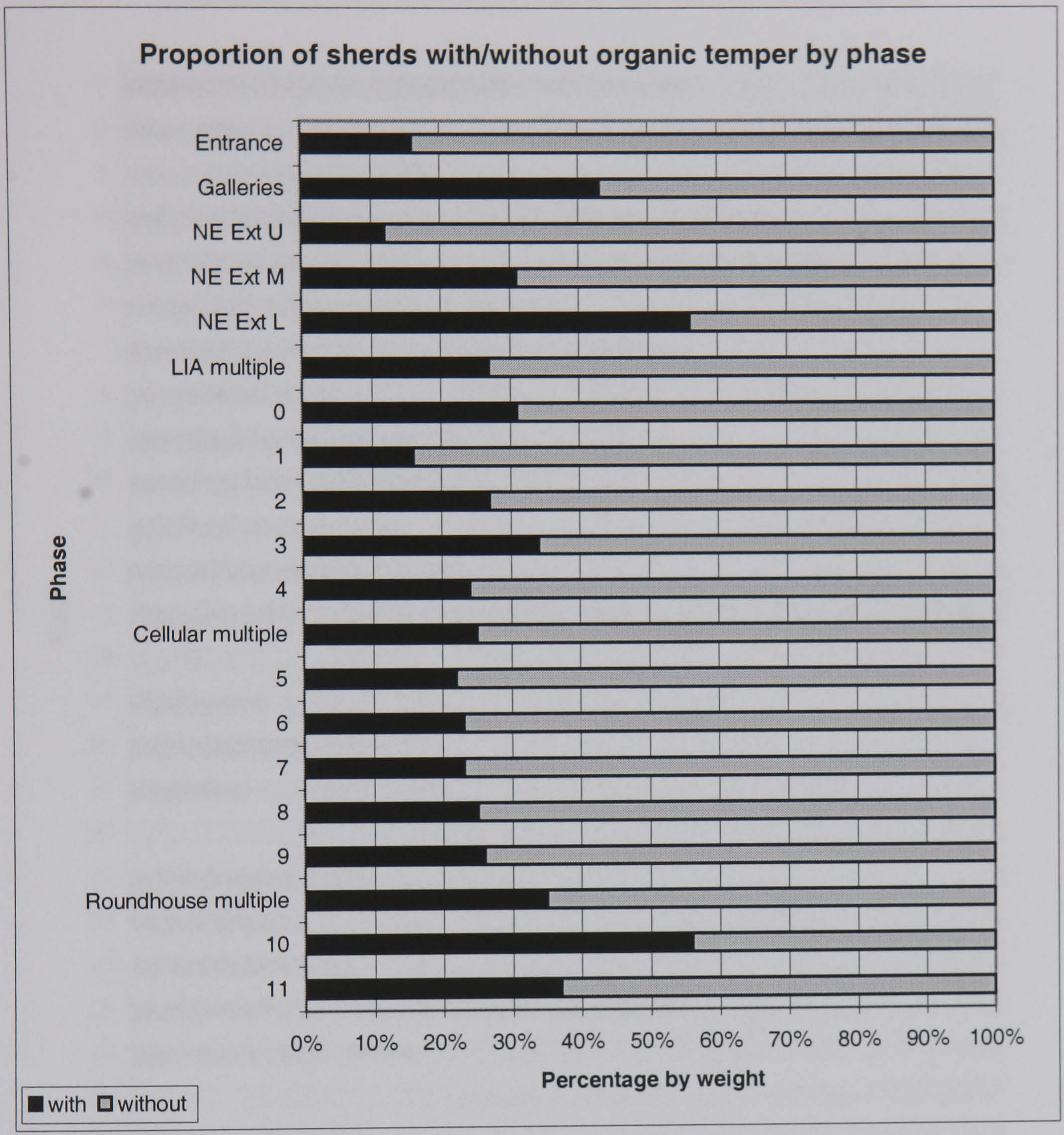
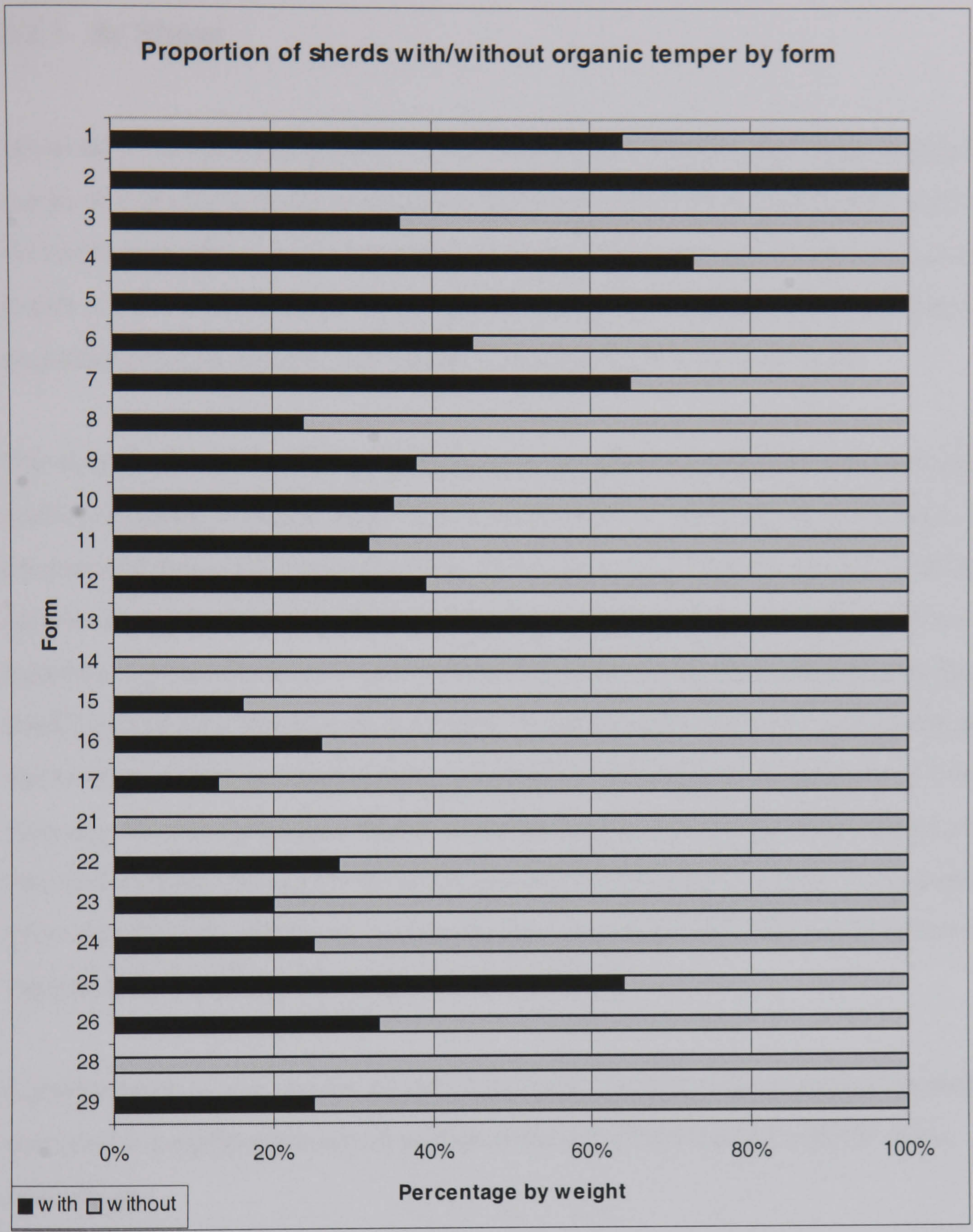


Figure 6-2: Proportion of fabrics with/without organic impressions and/or temper by form



6.3 Manufacture

6.3.1 By Phase

Secondary manufacturing processes such as surface finishes tend to eradicate the marks of primary forming techniques. Generally, between 60% and 80% of the sherds in each phase exhibit no manufacturing techniques at all. The two exceptions to this are the NE Extension Upper phase where 91% of sherds have no visible manufacturing techniques and Phase 11 where it is 55% of the sherds.

The vessels are constructed by coiling, with the typical marks of unsmoothed coils visible on sherd interiors. These can be in the form of coil folds or coil bulges. The presence of these coil marks are more common in the Roundhouse and Cellular phases (between 1% and 15% of all sherds per phase), where smoothing of the interiors is generally less complete than in the LIA phase (between 1% and 8% of all sherds per phase). The two characteristic types of coil break encountered are angled coil breaks and tongue-and-groove coil breaks. Although both types are present in virtually all of the phases, a degree of patterning is visible (Fig. 6-3). Angled coil breaks dominate during the Roundhouse and Cellular phases while tongue-and-groove coil breaks dominate during the Late Iron Age. The shift can be seen to happen between Phases 5 and 4.

Laminar fracture can also be an indicator of coil construction. Laminar fracture was recorded throughout almost all phases at levels of between 2% and 8% of the assemblage.

Three types of base manufacture were identified, relating to how the walls were attached to the base plate. These were: base plate with tongue, walls attached with an angled join; base with tongue, wall attached with a tongue-and-groove join; base plate with no tongue, wall attached directly onto base plate. A degree of patterning was visible through the phases (Fig. 6-4). Bases with angled wall joins have a normal distribution through the Roundhouse and Cellular phases reaching their maximum during Phase 7 with 6%. Bases with tongue-and-groove wall joins generally increase through time from 1% to 3% during the Roundhouse and Cellular phases to a maximum of 9% during the Late Iron Age. The exception is Phase 5, where they are present at 6%. Very few base sherds exhibited base plates with no tongue (less than 1%). These percentage calculations comprise the percentage of all sherds per phase.

Two principal types of rim construction were identified, folded rims and rims formed as separate pieces and attached at the neck. Folded rims are present throughout in small quantities of 1-2%, except in Phase 10 where they reach 4%. Folded rims are common on holemouth jars (Form 1). Separate rims are present throughout in varying quantities of between 4% and 18%. There appears to be little patterning and its presence is likely to be a reflection of the way in which rims break, as the neck with a separate section added would be one of the weaker points of the vessel.

Other manufacturing techniques such as finger pinching and drawing are rarely encountered.

Manufacturing techniques can be identified indirectly from cracking. Star cracks, formed around inclusions on the sherd surfaces, can indicate the use of paddle-and-anvil forming techniques. Star cracking was recorded in most phases at between 1% and 8% of the assemblage. It appears to be slightly more common in the Late Iron Age phases.

In all Cellular and Roundhouse phases (except Phase 5), all NE Extension phases, and Galleries and Entrance Area Unphased, the most common exterior surface finish is smoothing followed by fine wiping, and the most common interior surface finishes are smoothing and finger marking. There is a change in Phase 5, where the exterior surface finish is still dominated by smoothing but the second most common technique switches to roughening, while the interior surfaces are still finished primarily by smoothing and finger marking. In Phases 2, 3, 4 and Late Iron Age Multiple-phase the most common exterior surface finish is roughening followed by smoothing and finger marking and smoothing for the interior. Phases 1 and 0 have roughening and finger marking as the most common exterior surface finishes, while smoothing and finger marking remain the most common interior surface finishes.

After forming and finishing, the vessels are left to dry prior to firing. Drying cracks can form during this time due to excessive shrinking of the clay or too rapid water loss. These were noted in all phases at between 2% and 20% of the assemblage. There appears to be little patterning within these results.

6.3.2 By Form

Coil folds and bulges are not present on all forms. Those without any visible coils noted on their sherd interiors are Forms 6, 8, 14, 25, 26, and 28. Angled coil breaks are more common on Forms 1, 7, 8, 9, 10, 11, 17, 21, 22, 25, and 29. Tongue-and-groove coil breaks are more common on Forms 3, 6, 25, 16, 23, 24. The remaining forms have neither type of coil break present. Laminar fracture is present on all forms except Forms 2, 5, 12, 13, 26, and 28.

Only two of the base forms exhibited any manufacturing techniques, Forms 23 and 24. In each case, a majority of sherds by weight had base plates attached with tongue-and-groove joins: 25% of all sherds by weight of Form 24 and 17% of all sherds of Form 23. Bases with walls attached with an angled join comprised 14% of Form 24 and 4% of Form 23 by weight. In both cases, base plates without tongues constitute less than 1% by weight.

Two rim forms exhibit folding as the only visible forming technique, Forms 1 and 14. Form 3 has a majority of sherds exhibiting folded rims, while Form 4 has equal numbers of folded rims and separate rims. Forms 2, 7-13, and 15-17 have a majority of sherds showing that rims were attached as separate pieces. Forms 5 and 6 have no indication of how the rim was attached to the body.

Laminar fracture is present on all forms except Forms 2, 5, 12, 13, 26, and 28. Star cracks are present on all forms at between 2% and 20%, except Forms 5, 7, 12, 13, 14, 21, 25, 26 and 28.

Of the base forms, the most common exterior surface finish for Form 23 is roughening while the most common interior surface finish is smoothing. For Forms 24, 25 and 26 smoothing is the most common finishing technique on both the interior and exterior.

The most common exterior and interior surface finishes for each rim form are illustrated in Table 6-3.

Table 6-3: Most common exterior and interior surface finish by form

Exterior	Form	Interior	Form
Smoothing	1, 2, 5, 6, 7, 8, 9, 10, 12, 13, 14, 17	Smoothing	7, 8, 9, 10, 12, 13, 14, 17
Roughening	3, 11	Roughening	
Finger marking	4, 6, 11, 14, 15, 16	Finger marking	1, 2, 3, 4, 5, 6, 11, 15, 16

Dunting is most common with Forms 11 (5%), with Forms 1, 3, 4, 9 and 15 with 2% or less. Spalling is very infrequent but Form 2 has 20% of the sherds exhibiting spalling. This is due to a single sherd (no. 2154) which weighs 123g, thus over-representing spalling for this form.

Figure 6-3: Coil break type by phase

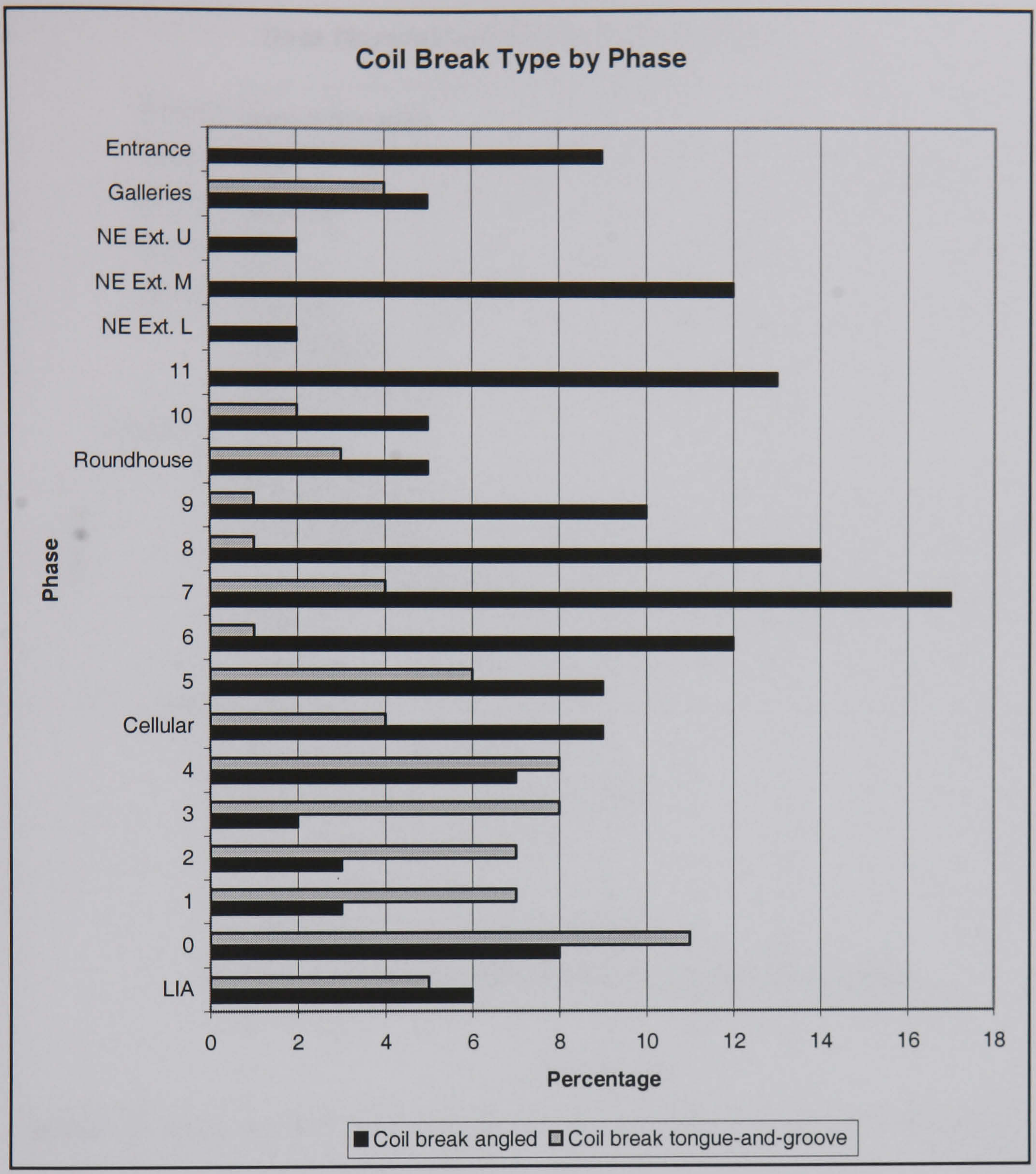
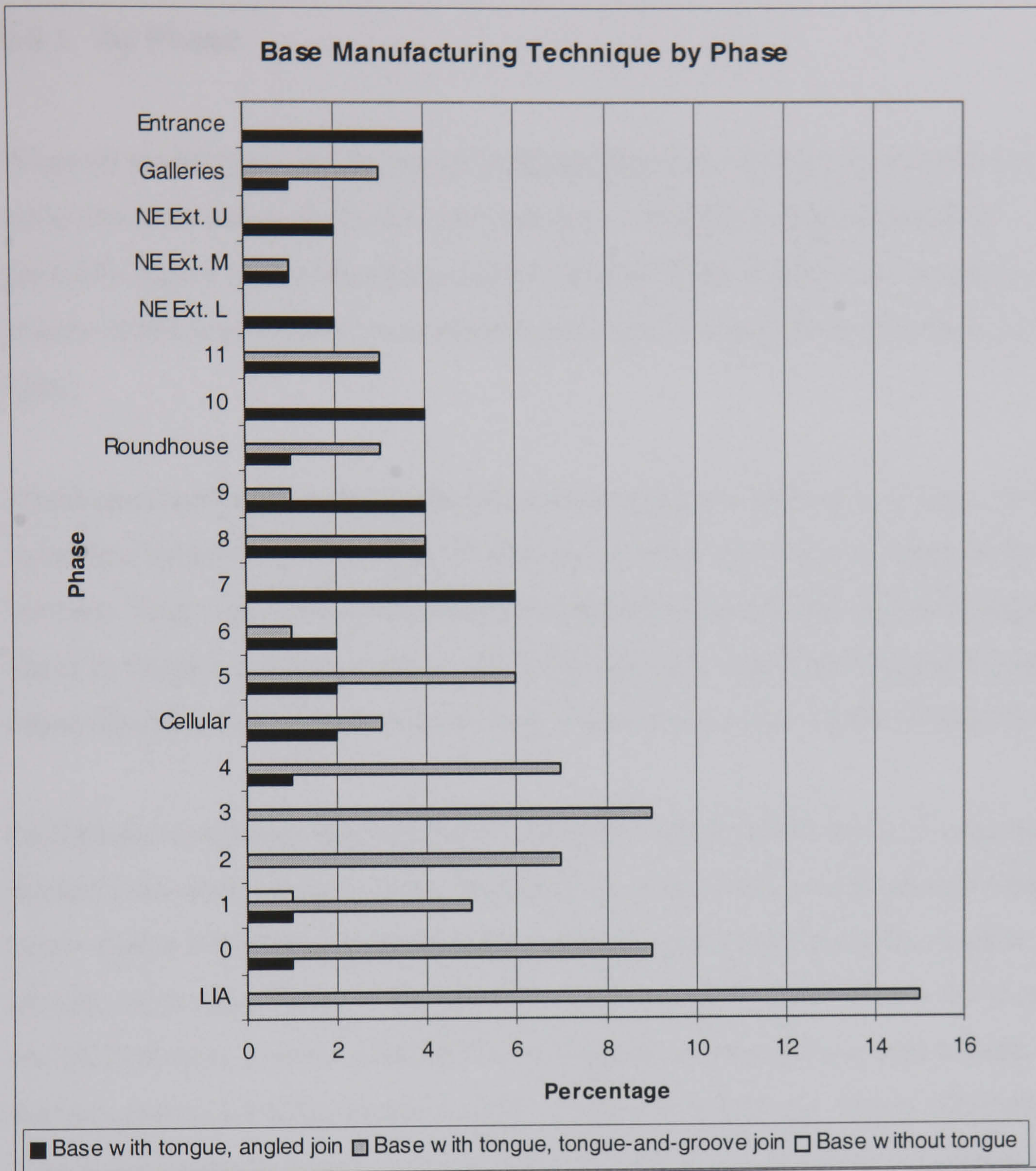


Figure 6-4: Base manufacturing technique by phase



6.4 *Sherd thickness*

6.4.1 By Phase

When all sherd types and forms are analysed together, average sherd thickness (total sherd thickness divided by the number of sherds present: Figure 6-5) is generally higher in the Roundhouse and Cellular phases than in the Late Iron Age phases. It tends to be over 7mm in the former and between 6mm and 7mm in the latter.

Minimum sherd thickness (Figure 6-6) across all phases and forms is never less than 3mm. Maximum sherd thickness (Figure 6-6) is more variable, but tends to lie between 10mm and 15mm, with a few exceptions recorded, the largest being a base sherd in Phase 2 at 20mm (cat. no. 2276). Median and mode calculations for each phase illustrate very little variation, each phase being in the region of 6mm to 8mm.

Each phase was subdivided into rim, base and body sherds and the average sherd thickness for each category was calculated. The results are presented in the table below (Table 6-4). These results indicate that rim sherds were slightly thinner overall, at less than 7mm, in the Late Iron Age phases and in Phases 5, NE Extension M, NE Extension U and Galleries. Phases 7 and 8 see the thickest rims overall. Base sherds were found to be thicker overall, at more than 8mm, in Phases NE Extension U, Cellular multiple-phase contexts, 9, 8, 7, 5, Late Iron Age multiple-phase contexts, and Entrance unphased contexts. Body sherds tend to be slightly thicker in the Cellular phases. It is often the case that base sherds are thicker than rim or body sherds, the only exceptions being in the NE Extension Lower, Roundhouse multiple-phase contexts, Phase 8, Phase 1 and Phase 0. From a practical viewpoint, thicker bases are an understandable method of manufacture, to provide stability for the vessel.

Table 6-4: Average sherd thickness by base, rim and body divisions. Measurements in mm.

	Galleries	Entrance	NE Ext L	NE Ext M	NE Ext U	Roundhouse	11	10	Cellular
rim	6.51	8.36	7.00	6.32	6.20	7.18	7.69	7.00	7.35
base	7.27	8.75	5.60	6.89	8.33	7.46	7.43	7.00	8.14
body	6.92	8.00	6.11	6.16	7.09	7.61	7.82	6.60	7.66

	9	8	7	6	5	LIA	4	3	2	1	0
rim	7.47	8.12	8.03	7.47	6.74	6.33	6.33	6.19	6.28	6.27	6.98
base	8.57	8.78	8.83	7.68	8.01	8.17	7.71	7.59	7.57	7.46	7.50
body	7.75	9.21	8.40	7.41	7.63	7.83	6.73	7.40	6.71	8.38	7.78

6.4.2 By Form

Vessel forms vary in average sherd thickness (Fig. 6-7), with the lowest average sherd thickness belonging to Forms 7 and 25 and the highest to Form 29. Most forms fall between 6mm and 8mm. Those over 8mm comprise Forms 5, 10, 12, 13, 24 and 29, while those under 6mm comprise Forms 7 and 25 with Forms 14 and 26 on 6mm.

The highest measured maximum sherd thickness (Fig. 6-8) come from base Forms 23 and 24 and from the body sherds, Form 29, closely followed by Form 9. Forms with the lowest measured maximum sherd thickness comprise Forms 2, 7, 14, 21, 25 and 26.

Figure 6-5: Average sherd thickness by phase

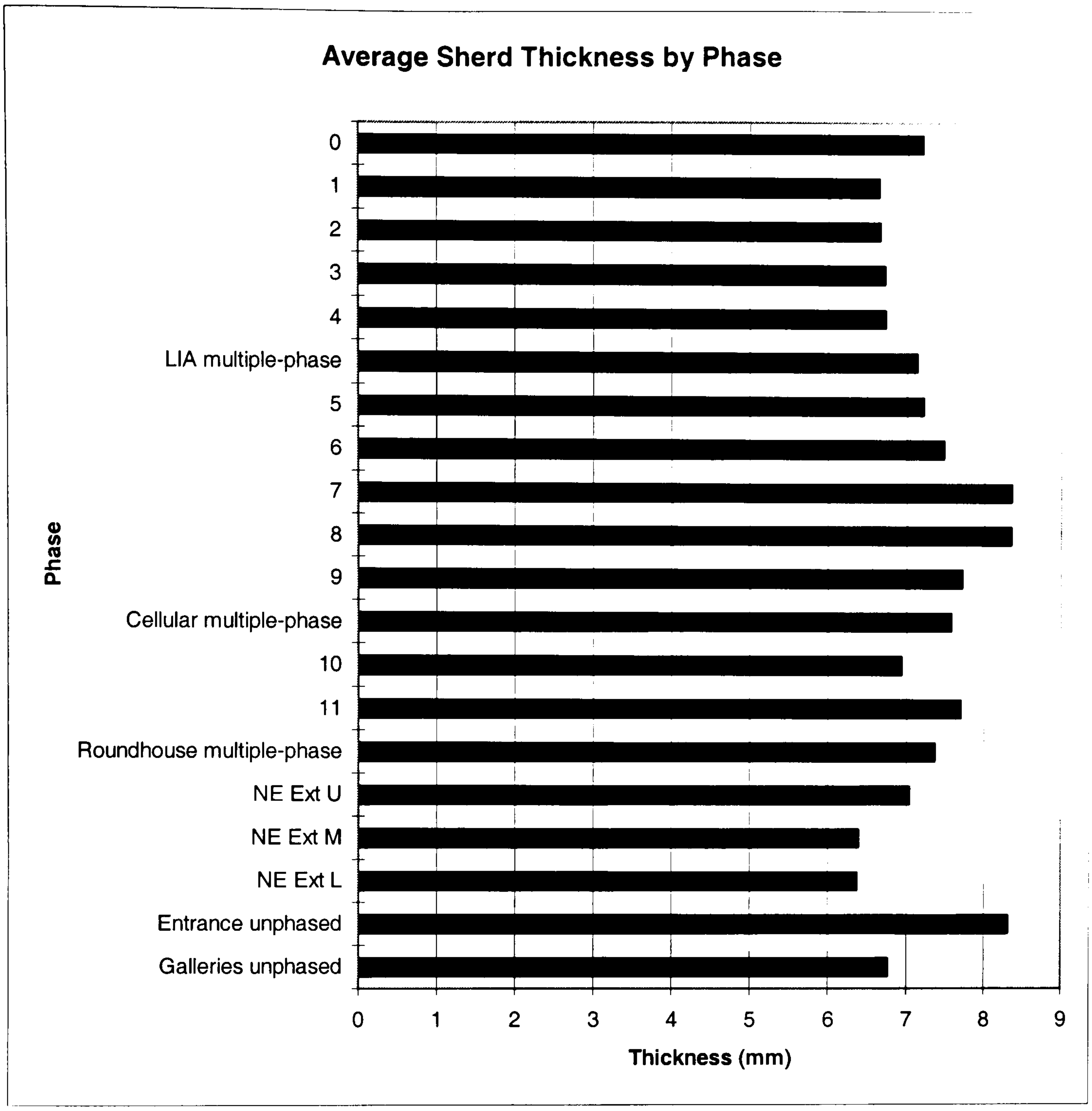


Figure 6-6: Minimum and maximum sherd thickness by phase

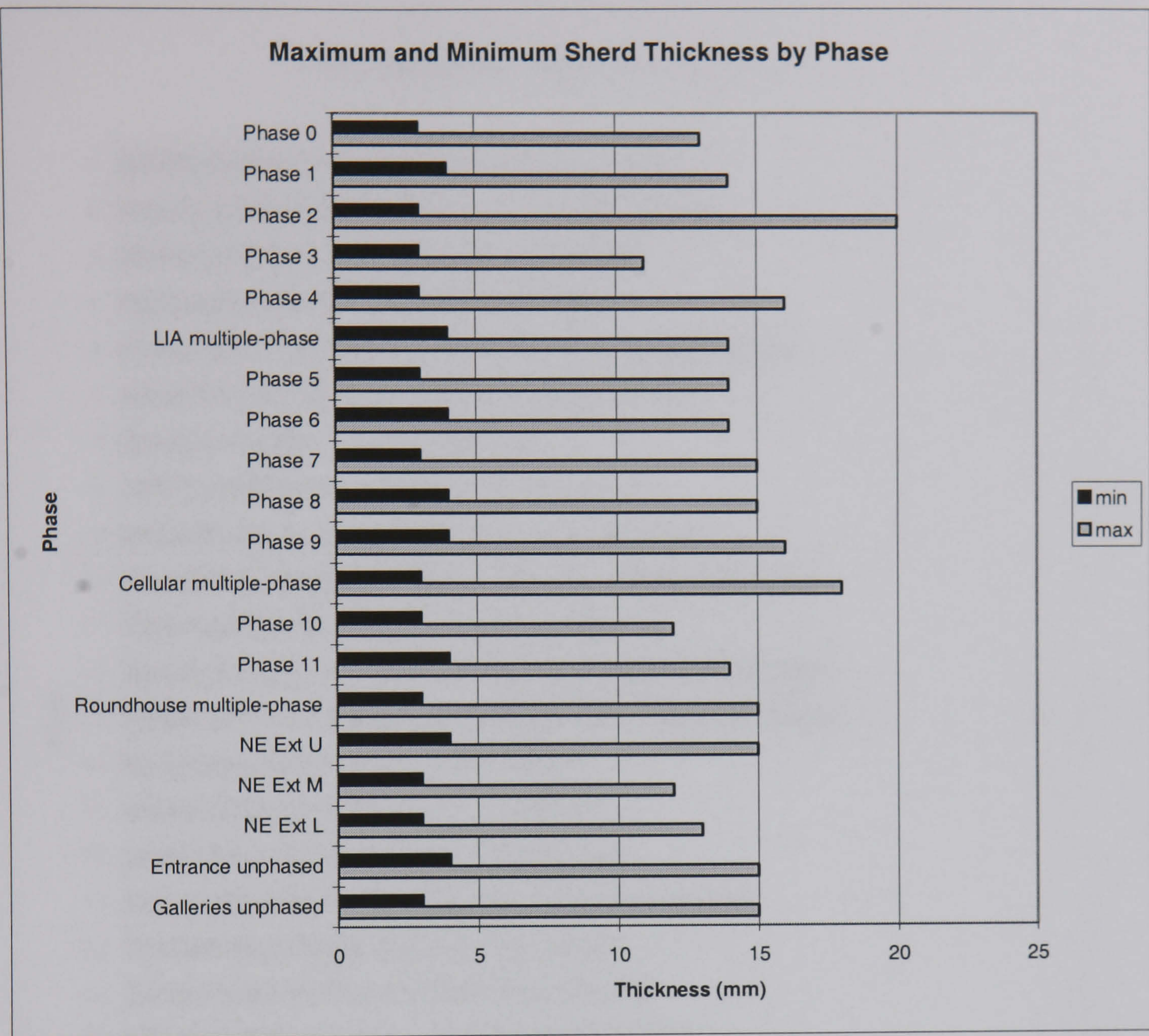


Figure 6-7: Average sherd thickness by form

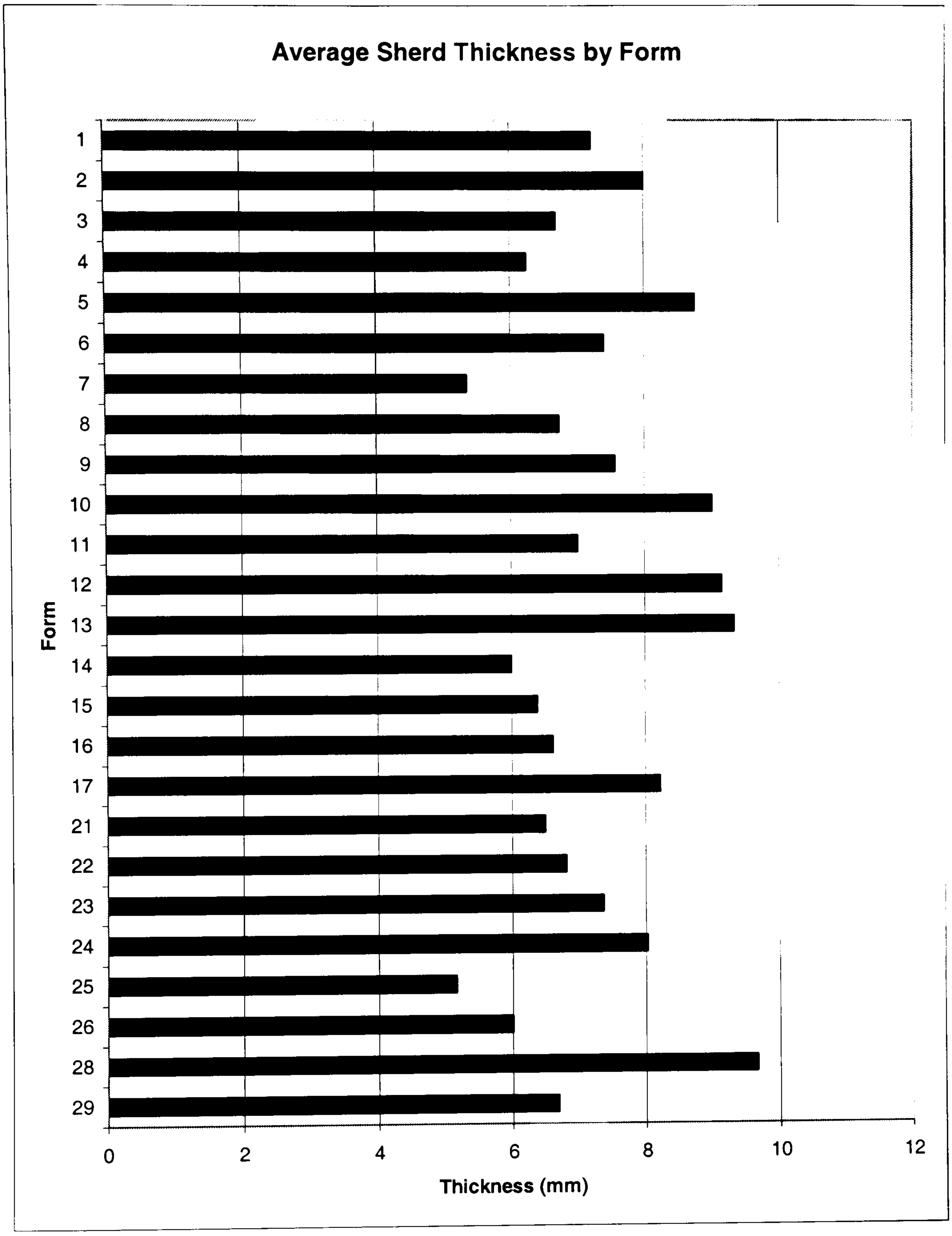
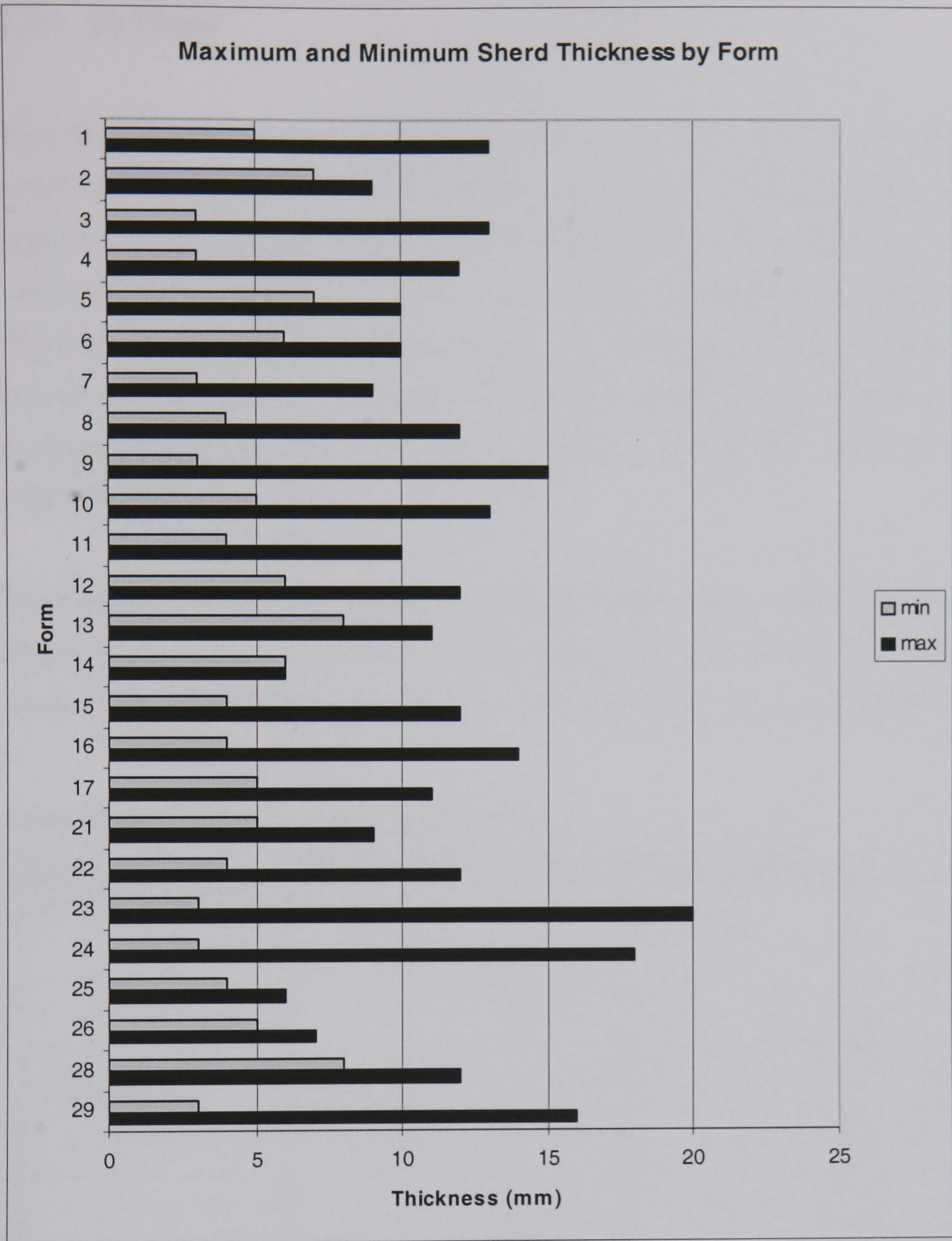


Fig. 6-8: Maximum and minimum sherd thickness by form



6.5 Vessel size

6.5.1 By Phase

Base diameter (Table 6-5) throughout the phases sees little variation in the minimum vessel size measured. This is presumably because below a certain size, which here appears to be 5cm, such a small vessel becomes impractical. There is a little more variety in the maximum base diameter, which is generally smaller in the earlier phases, reaching 14cm maximum in Phase 9. In the later phases base diameter reaches a maximum of 20cm (Phase 2), with a greater frequency of diameters measured at 11cm to 14cm. The mode base diameter through all phases is generally centred around 9 or 10cm.

The smallest measured rim diameter is 8cm (Phase 5) while the largest is 35cm (Phase 2). Rim diameter tends to be slightly larger overall in the Late Iron Age phases, with a generally higher minimum and maximum diameter (Table 6-6, Fig. 6-9).

Table 6-5: Base Diameter, all forms by phase

Phase	Minimum (cm)	Maximum (cm)	Mode (cm)
Late Iron Age Multiple	6	11	9
0	8	16	10
1	6	15	10
2	5	20	9
3	7	15	11
4	6	14	9 / 10
Cellular Multiple	5	13	9
5	5	13	10
6	6	11	8
7	6	10	8 / 9
8	8	11	9 /10
9	6	14	9
Roundhouse Multiple	5	12	9
10	6	11	10
11	6	13	-
NE Ext L	5	10	-
NE Ext M	7	12	7 / 10
NE Ext U	-	-	-
Galleries	5	15	8 / 9
Entrance	6	10	10

Table 6-6: Rim Diameter, all forms by phase

Phase	Minimum (cm)	Maximum (cm)	Mode (cm)
Late Iron Age Multiple	14	25	19
0	14	32	17 / 21
1	14	33	24
2	10	35	17
3	10	29	22 / 23
4	12	29	21
Cellular Multiple	9	28	14 / 19
5	8	29	-
6	10	30	15 / 22
7	13	24	18 / 24
8	12	25	-
9	10	28	20 / 21
Roundhouse Multiple	10	27	14 / 16
10	10	34	18
11	9	28	-
NE Ext L	14	29	21
NE Ext M	9	18	12 / 18
NE Ext U	22	22	22
Galleries	11	35	17 / 22
Entrance	15	19	-

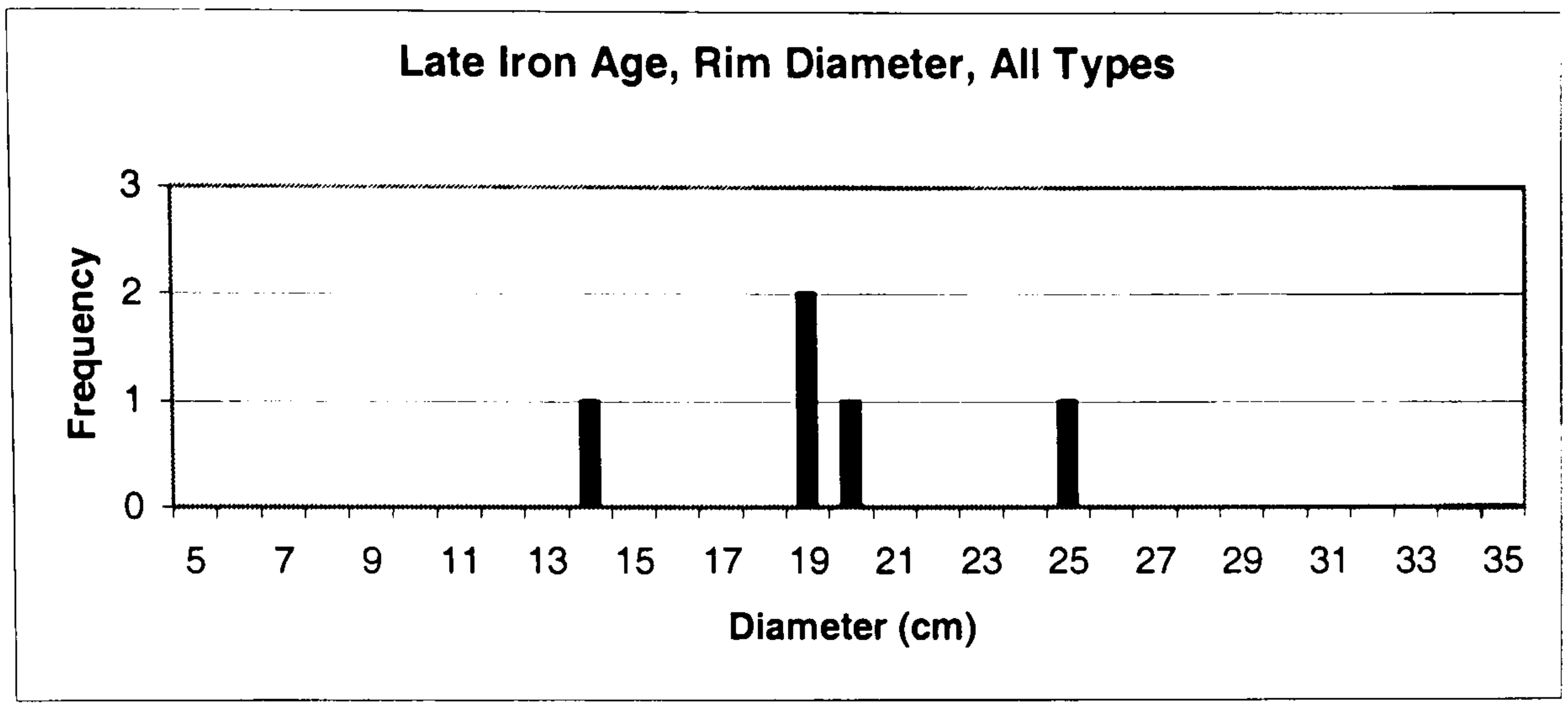
6.5.2 By Form

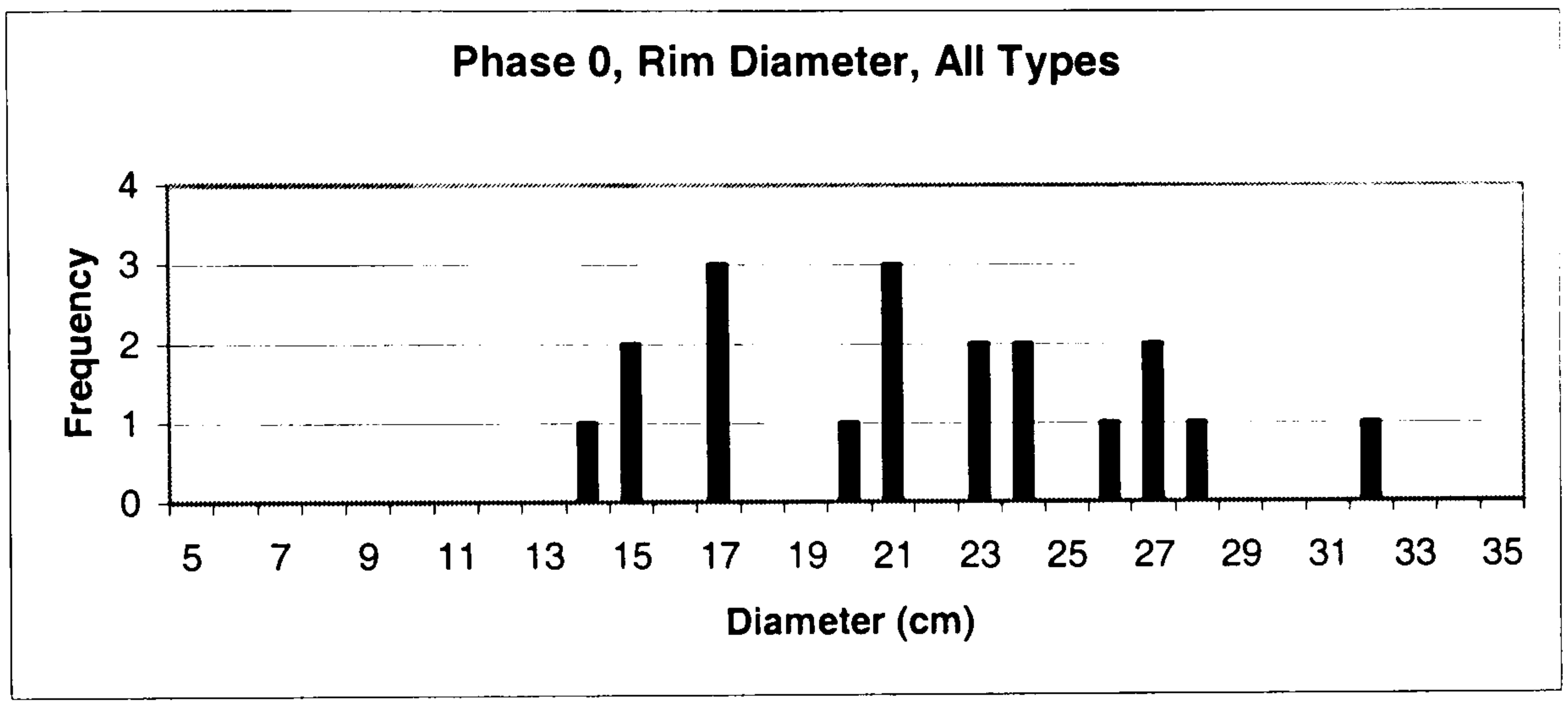
The base diameter ranges (Fig. 10) of Forms 23 and 24 are very similar, with the mode being 9cm in each case. The base diameters of Forms 25 and 26 are much more limited, ranging from 6cm to 8cm and 6cm to 9cm respectively.

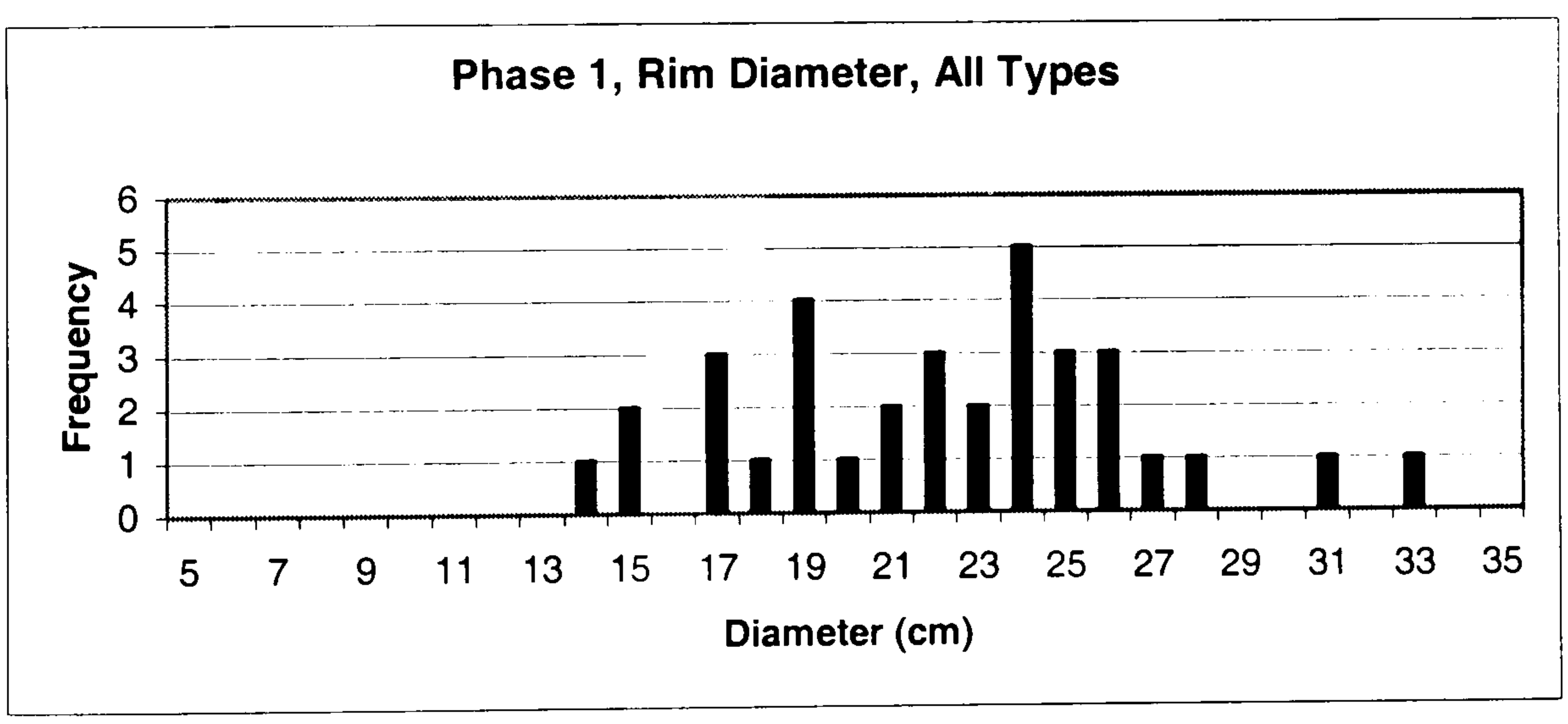
Form 17 has a relatively high diameter range, measuring between 18cm and 28cm. Forms 15 and 16 have rim diameters which are slightly skewed to the larger end of the scale, producing ranges of 12cm to 35cm for Form 16 and 15cm to 33cm for Form 15. Forms 7 and 8 had fairly tight, and small, rim diameter ranges, measuring between 10cm and 21cm with the mode at 14cm for Form 11 and 15cm for Form 7; Form 7 also had a solitary outlier at 28cm. Form 9 has a large range and produces a fairly classic bell-curve. It ranges between 8cm and 28cm; notably absent are vessels at the upper end of the rim diameter range. Forms 1 and 2 appear to have rim diameters concentrated at the upper end of the size range, although Form 2 had very few measurable rim diameters present. Their range together measures between 14cm and 34cm with the mode at 22cm for Form 1. Forms 4 and 11 have fairly broad rim diameter ranges but with little distinguished patterning within them. Form 3 generally has a range towards the larger end of the scale except for an outlier at 10cm; otherwise it ranges from 15cm to 29cm with the mode at 25cm.

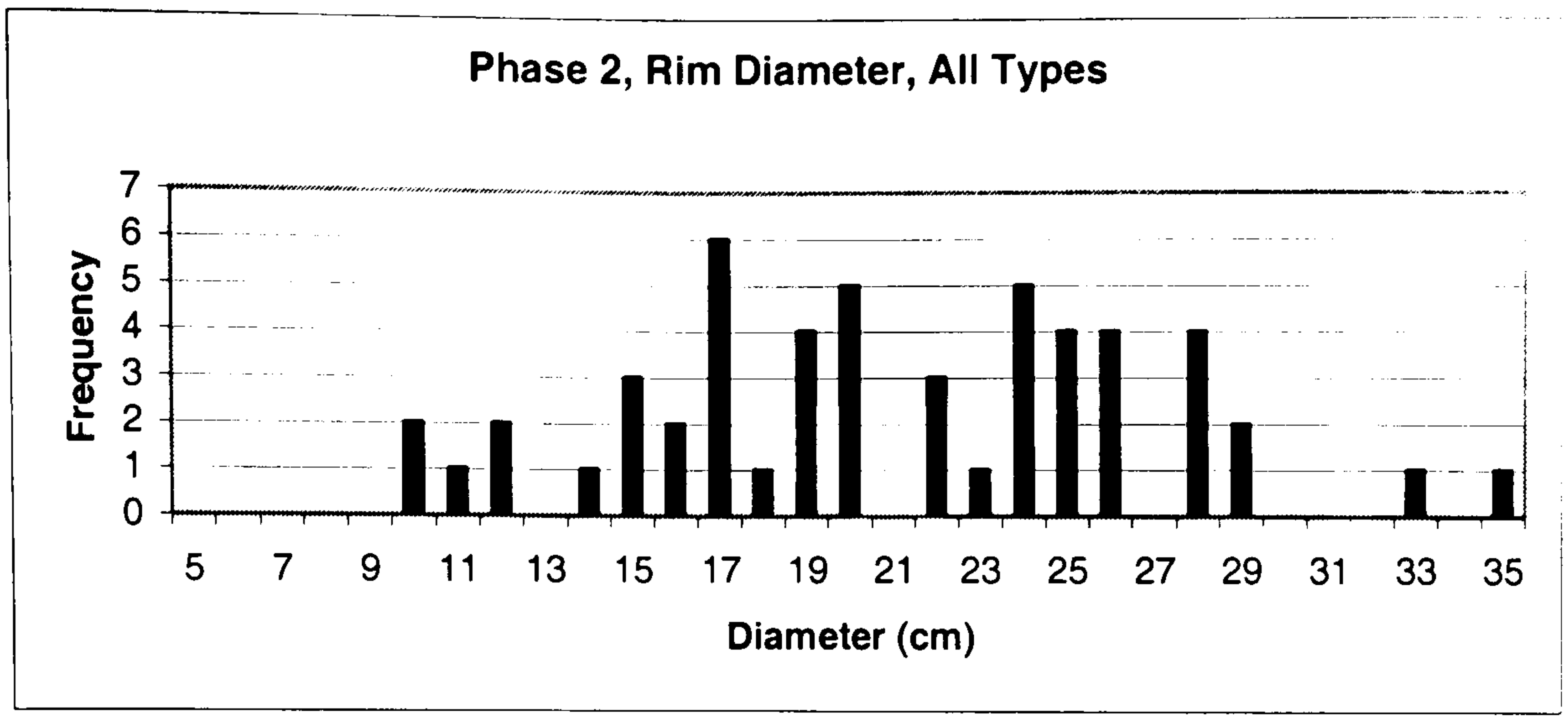
Forms 5, 6, 13 and 14 had no measurable rim diameters. Forms 10 and 12 had very few measurable diameters and therefore it is difficult to discern any patterns within that data.

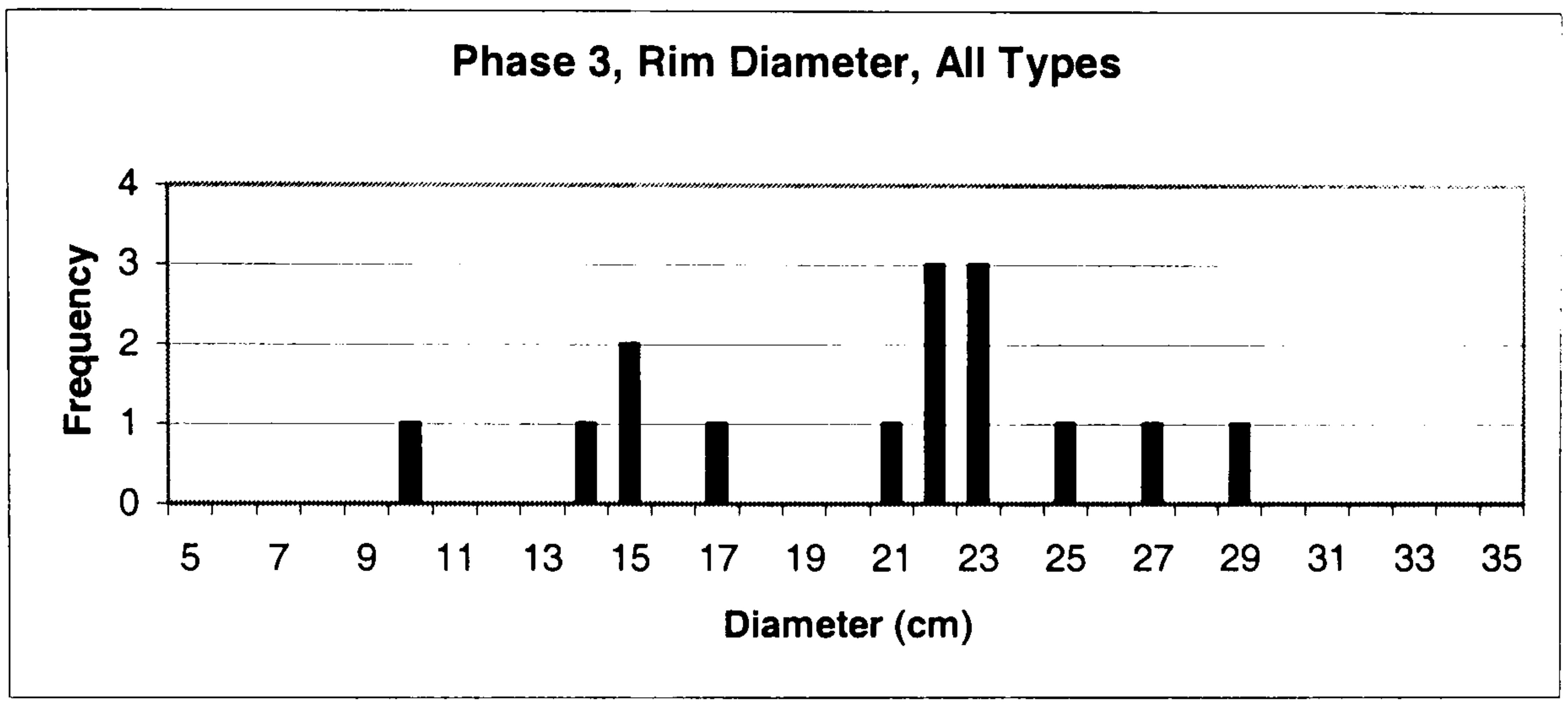
Figure 6-9: Diameter by Phase

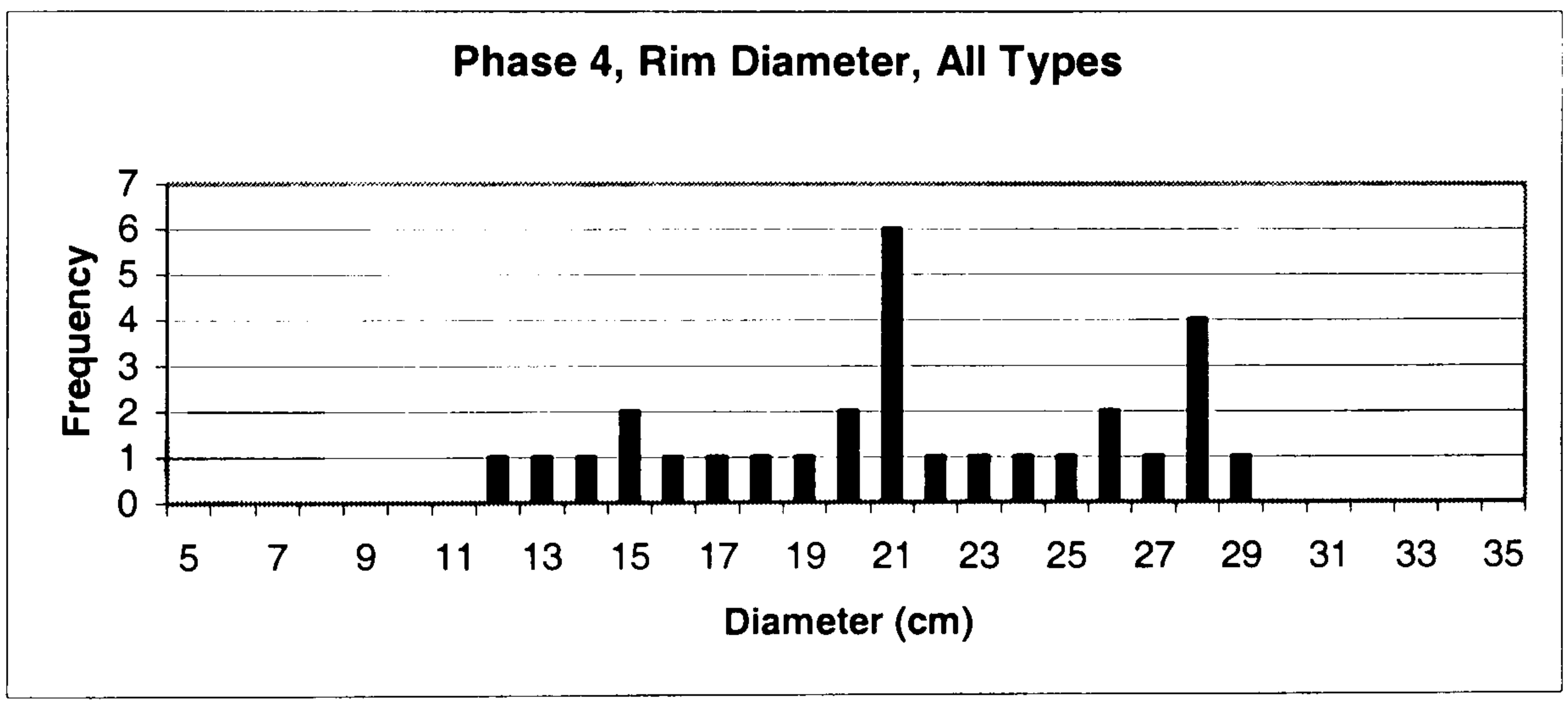


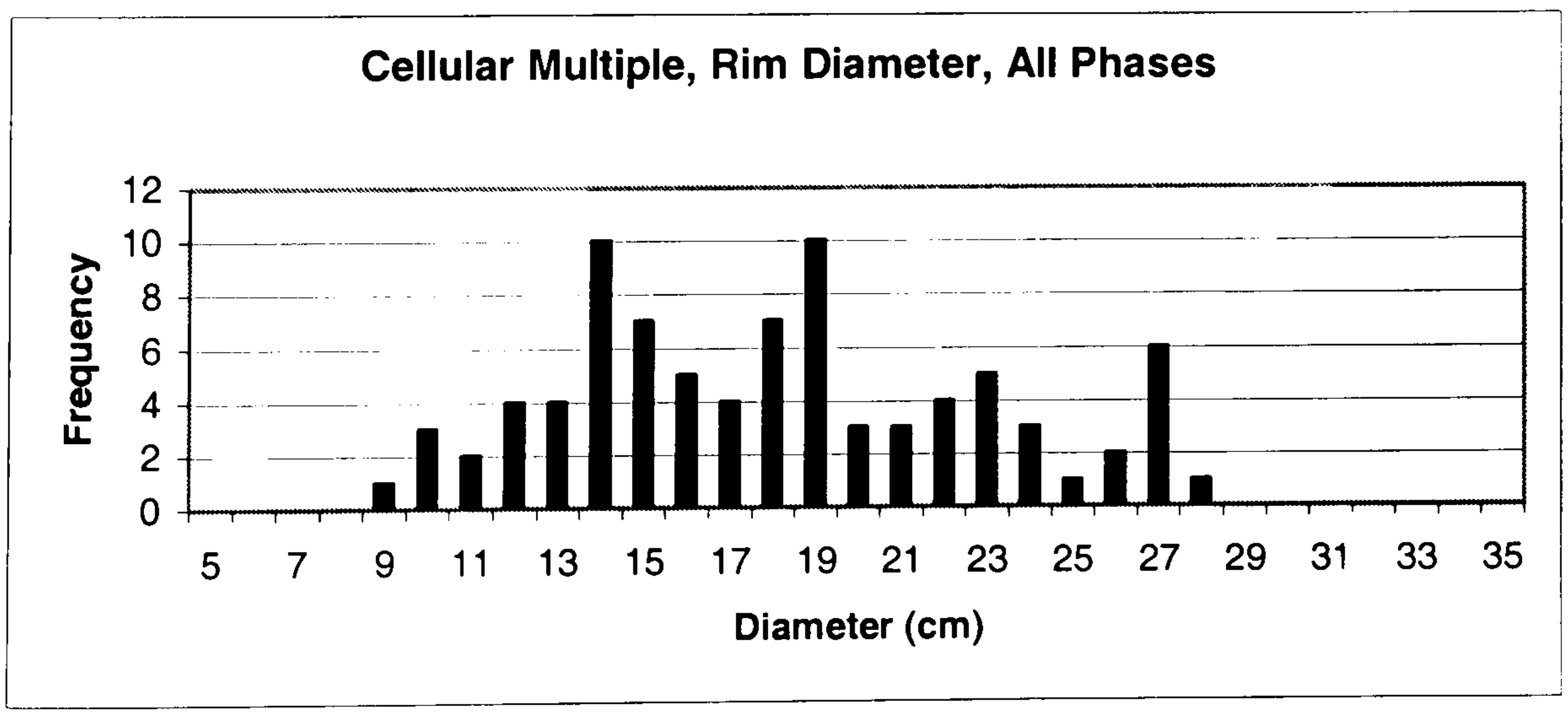


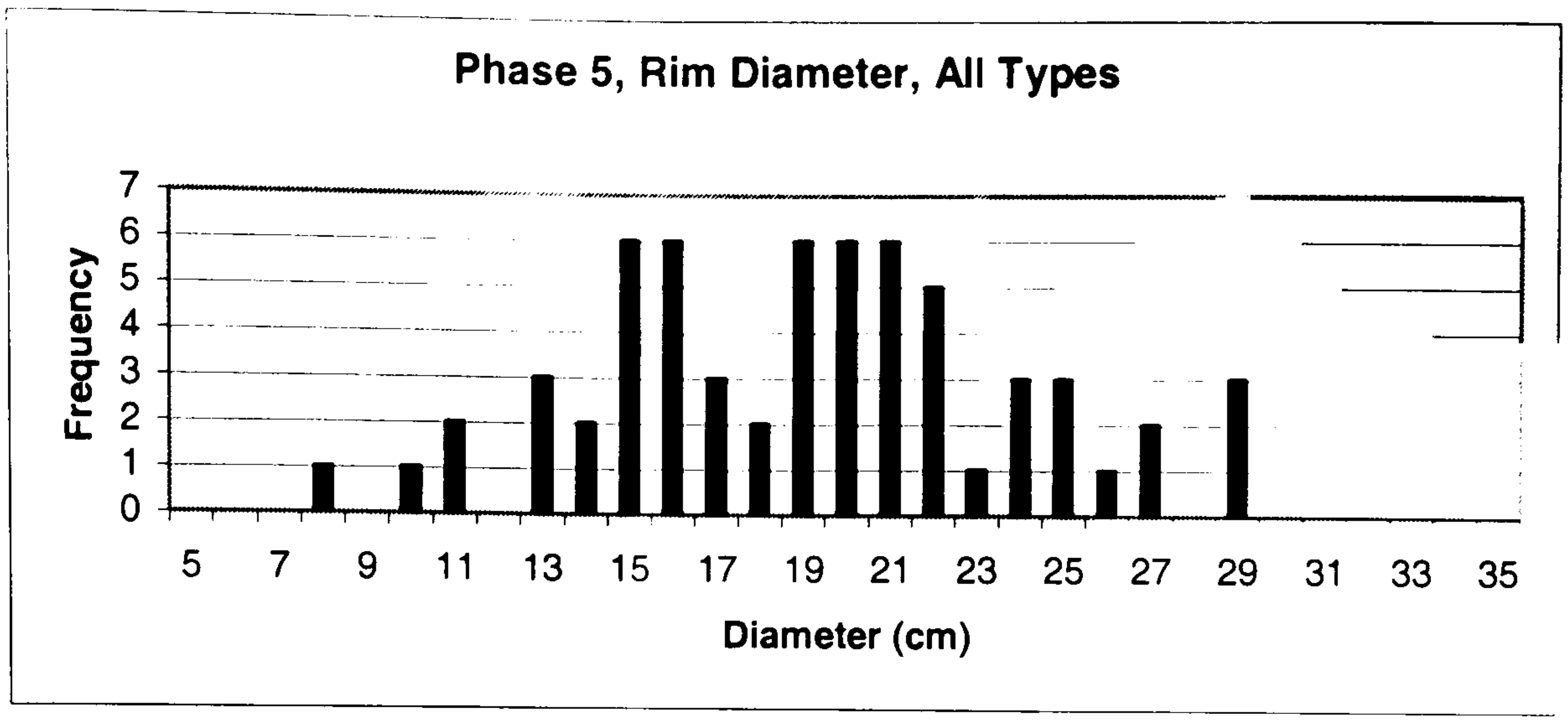


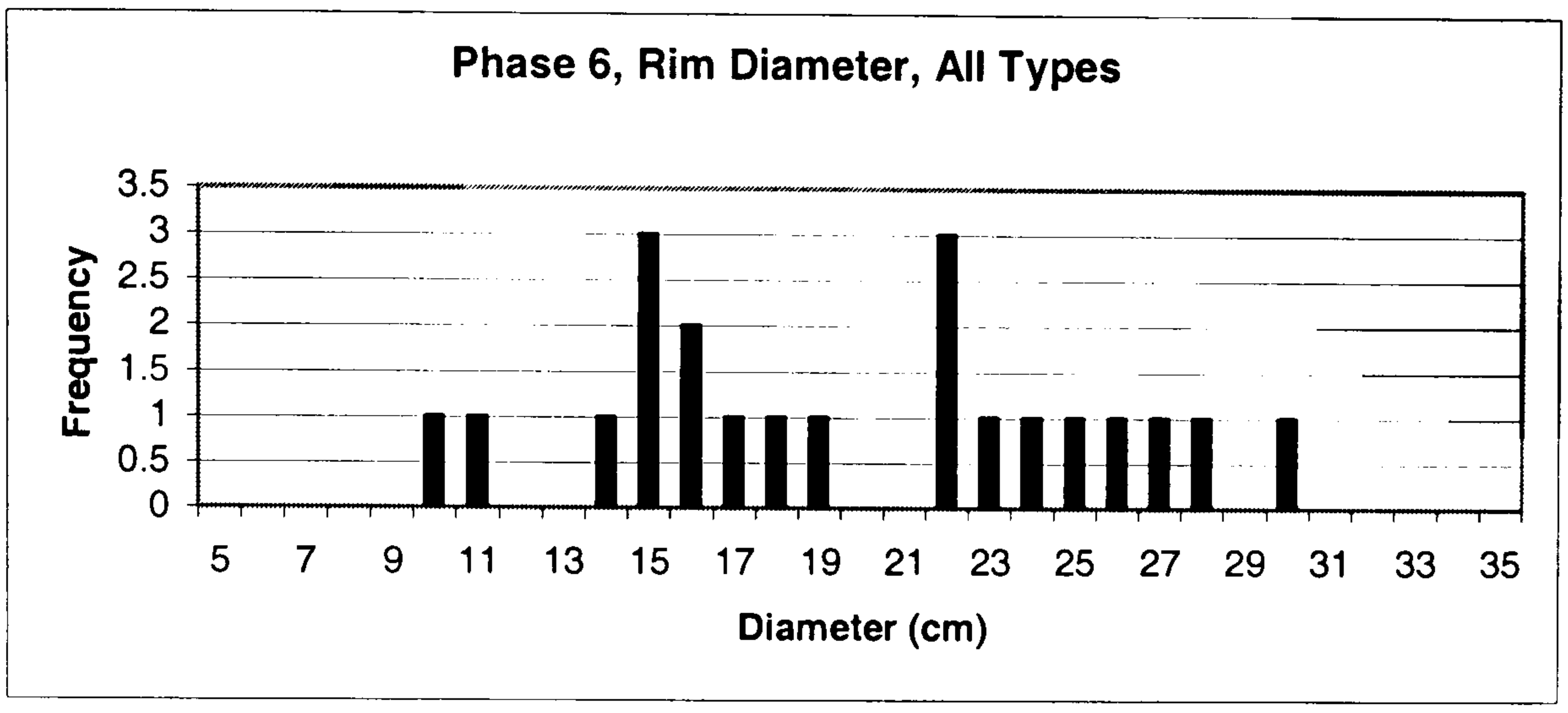

Phase 2, Rim Diameter, All Types
Frequency
Diameter (cm)

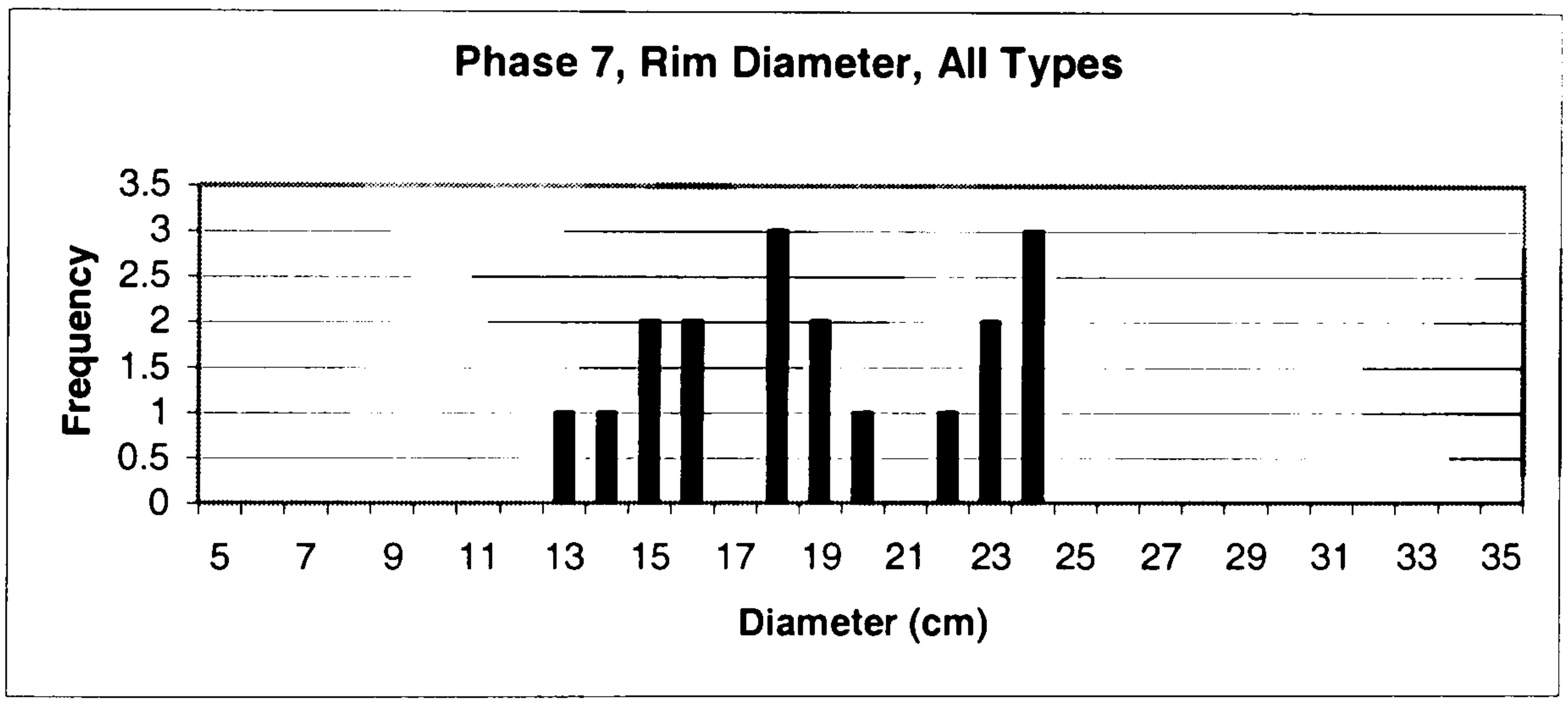

Phase 3, Rim Diameter, All Types
Frequency
Diameter (cm)

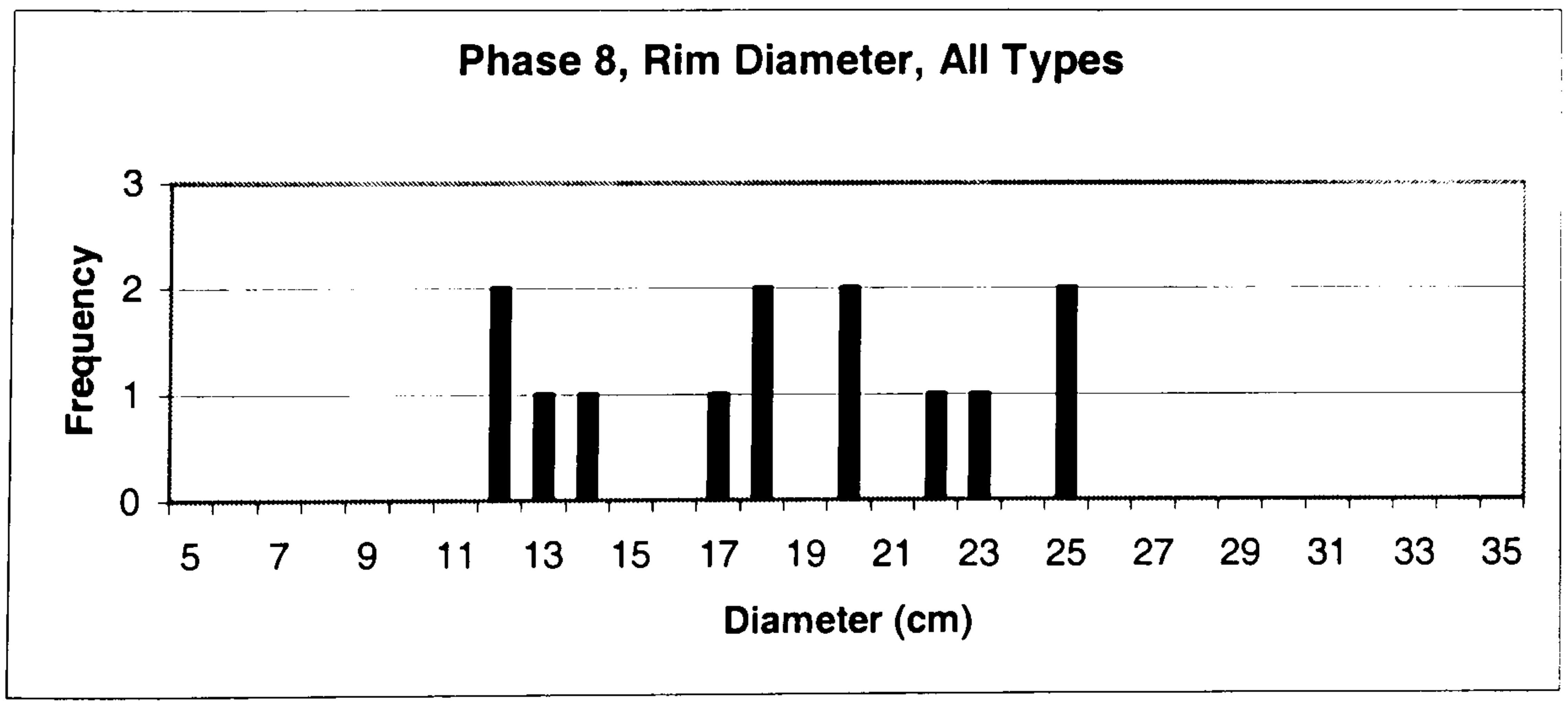

Phase 4, Rim Diameter, All Types
Frequency
Diameter (cm)

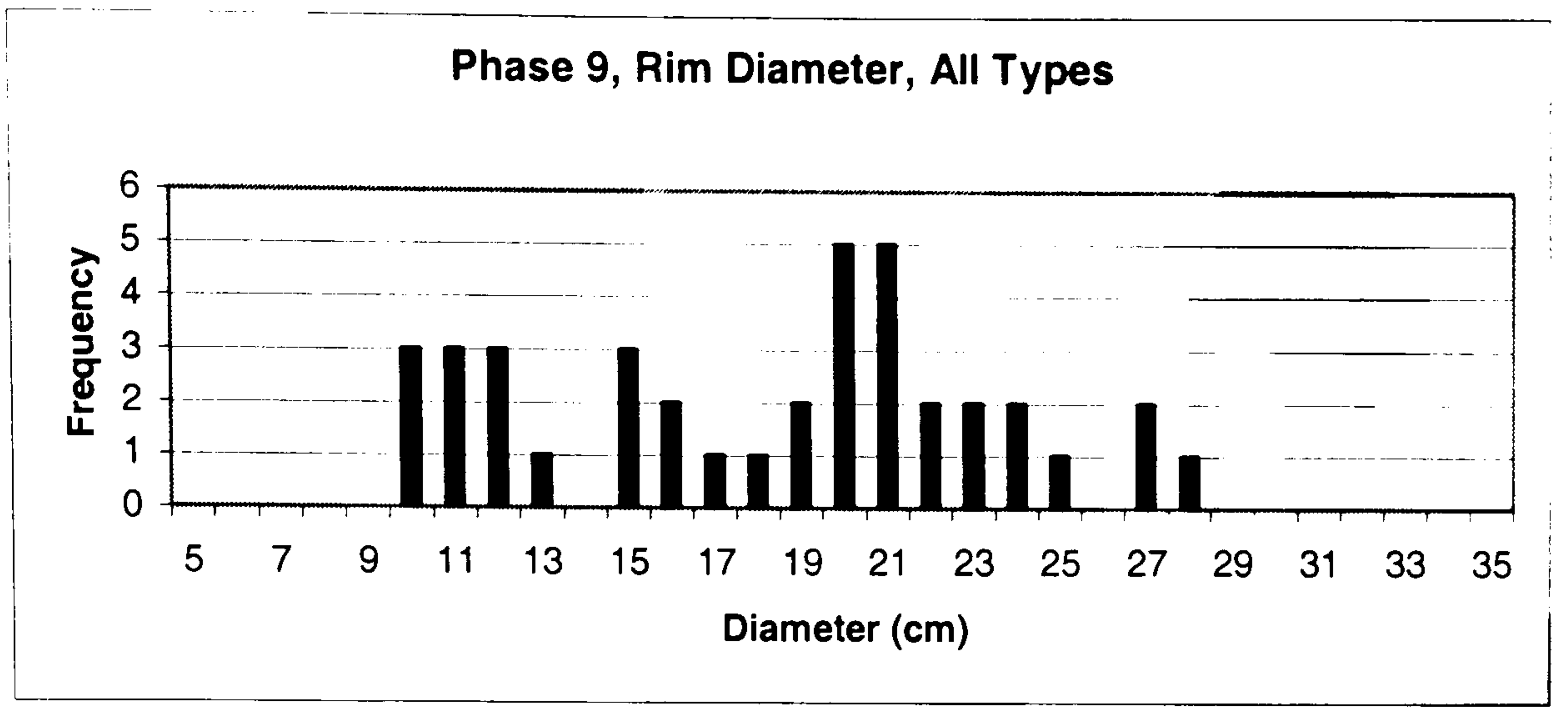

Cellular Multiple, Rim Diameter, All Phases
Frequency
Diameter (cm)

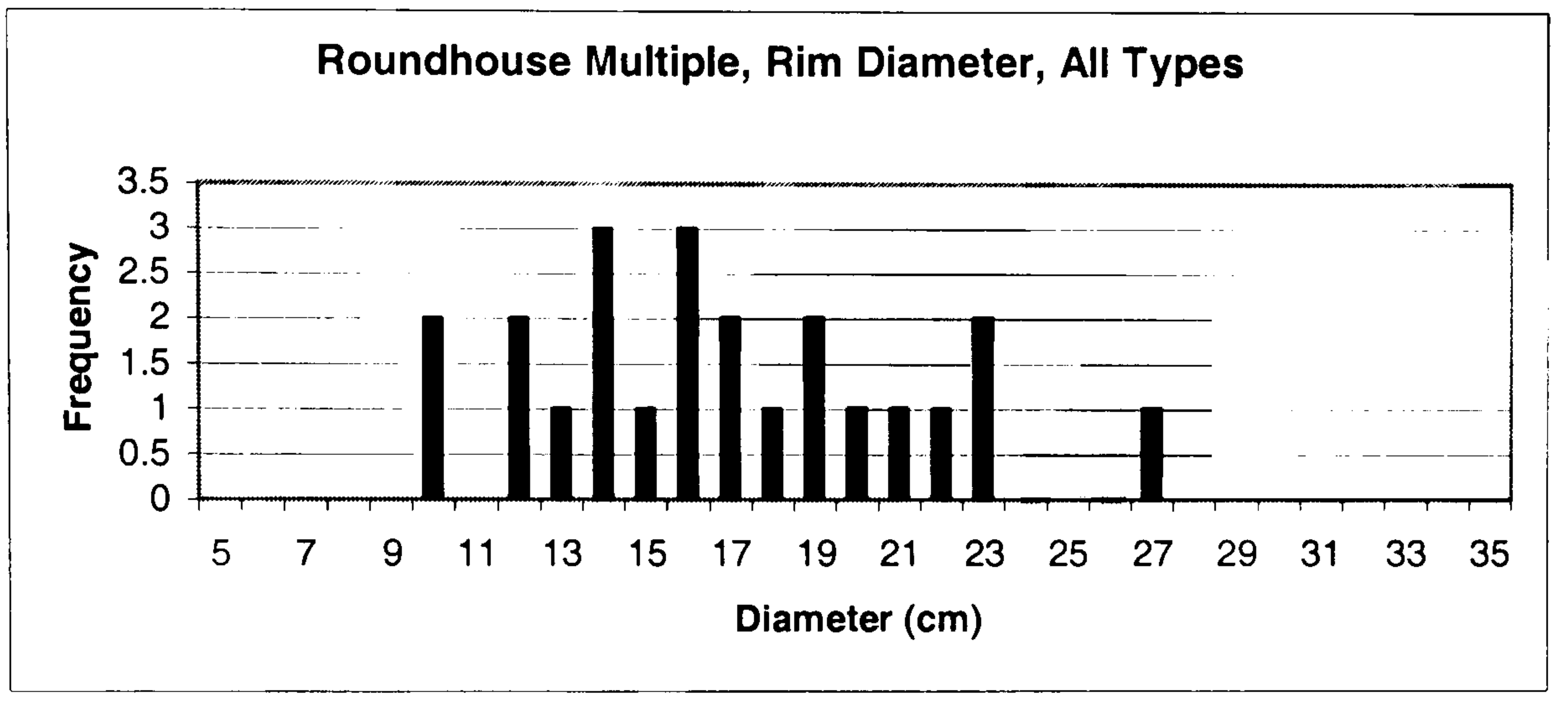

Phase 5, Rim Diameter, All Types
Frequency
Diameter (cm)
0
1
2
3
4
5
6
7
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35

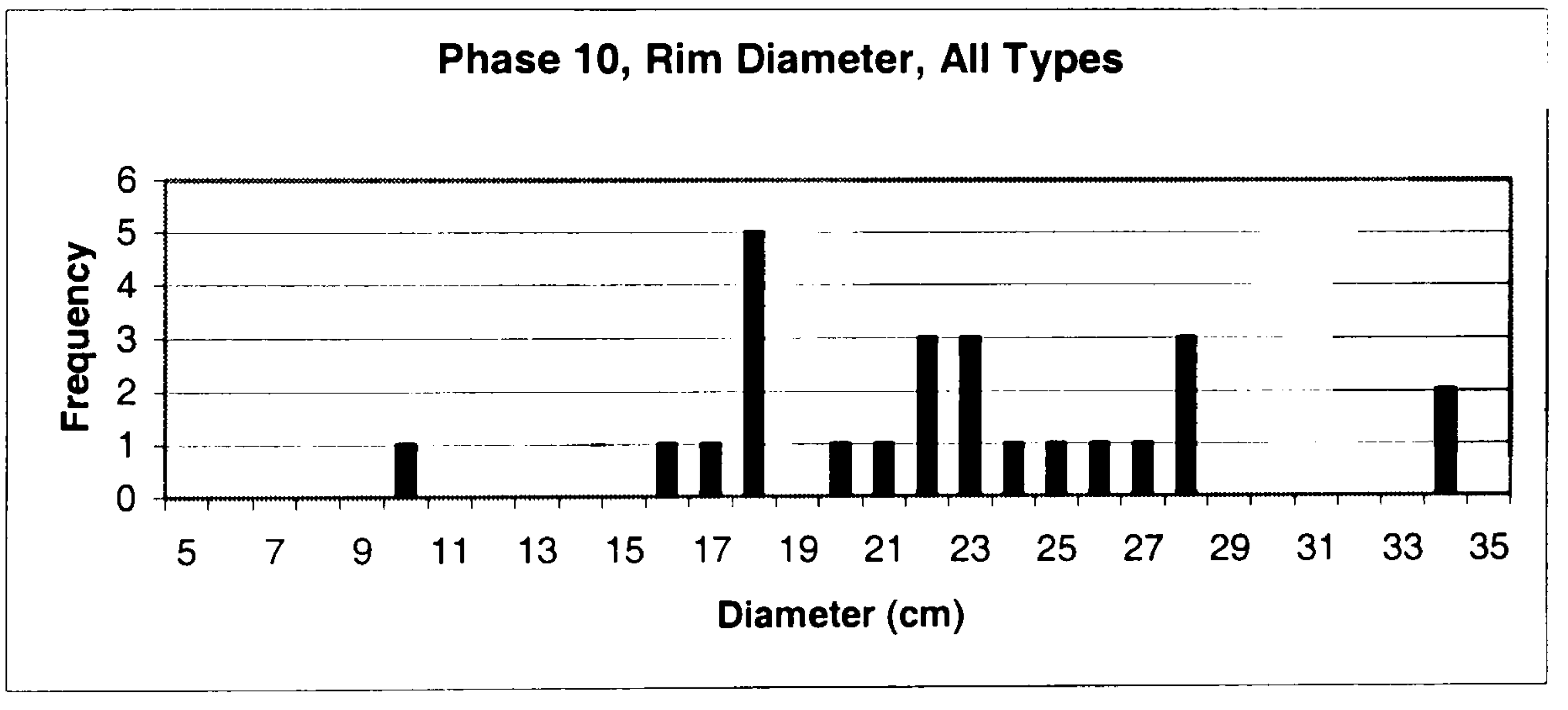

Phase 6, Rim Diameter, All Types
Frequency
Diameter (cm)
0
0.5
1
1.5
2
2.5
3
3.5
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35

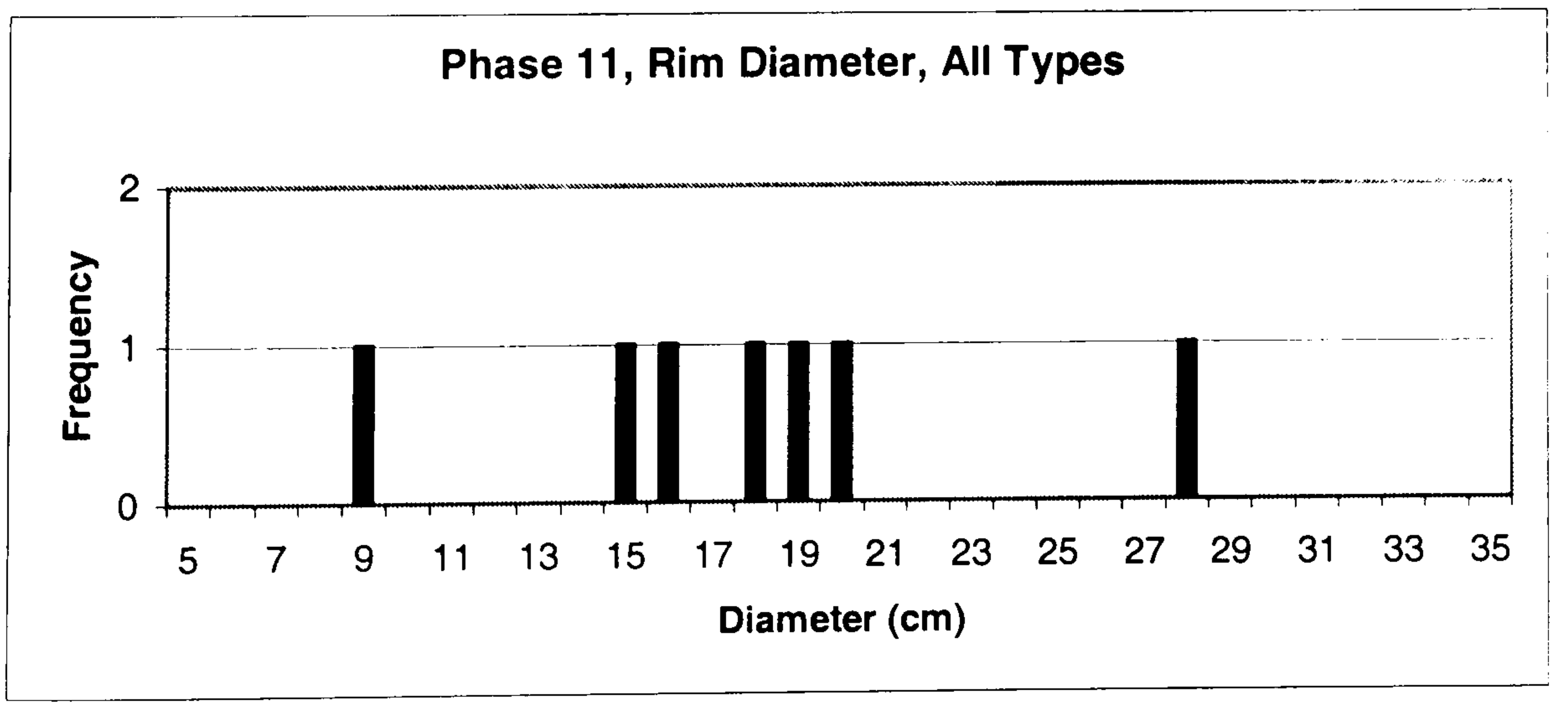

Phase 7, Rim Diameter, All Types
Frequency
Diameter (cm)
0
0.5
1
1.5
2
2.5
3
3.5
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35


Phase 8, Rim Diameter, All Types
Frequency
Diameter (cm)
0
1
2
3
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35

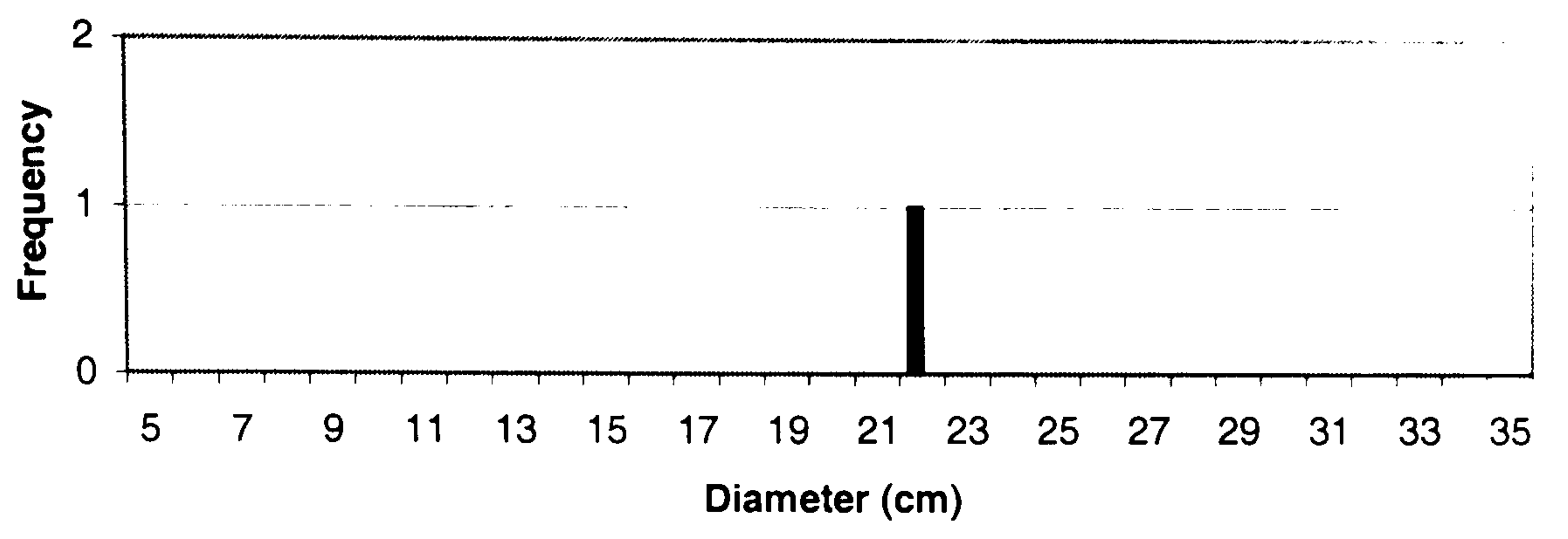

Phase 9, Rim Diameter, All Types
Frequency
0
1
2
3
4
5
6
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
Diameter (cm)


Roundhouse Multiple, Rim Diameter, All Types
Frequency
0
0.5
1
1.5
2
2.5
3
3.5
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
Diameter (cm)

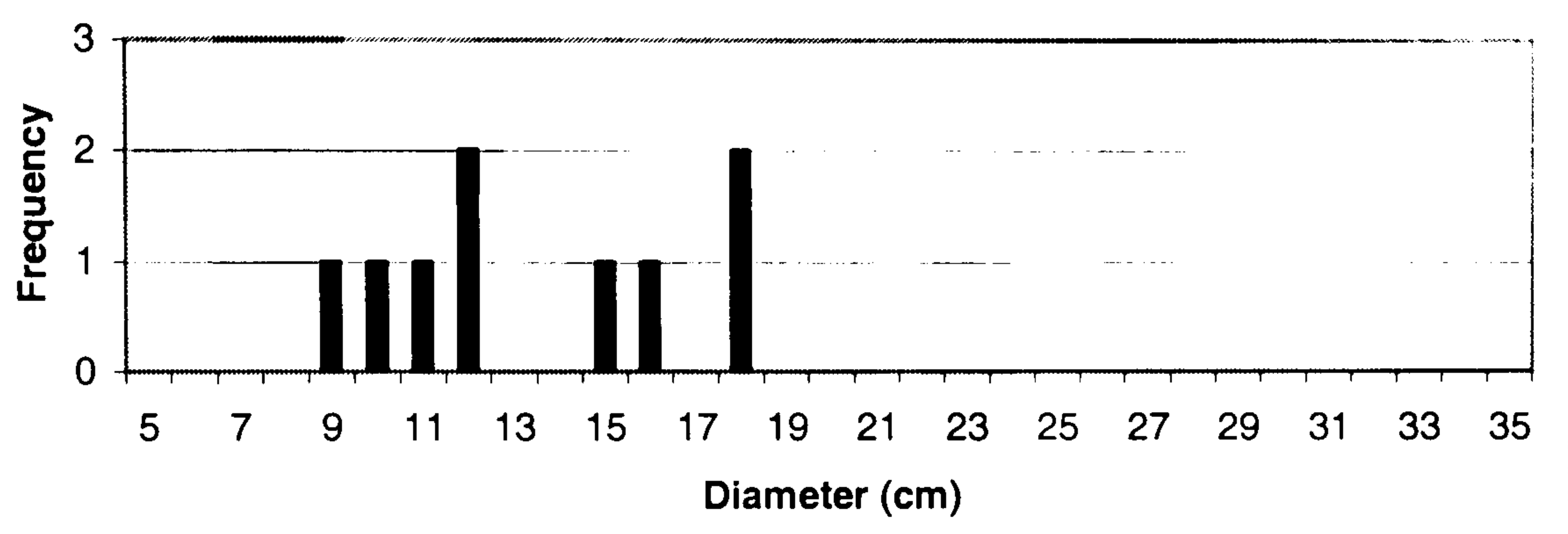

Phase 10, Rim Diameter, All Types
Frequency
0
1
2
3
4
5
6
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
Diameter (cm)


Phase 11, Rim Diameter, All Types
Frequency
0
1
2
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
Diameter (cm)

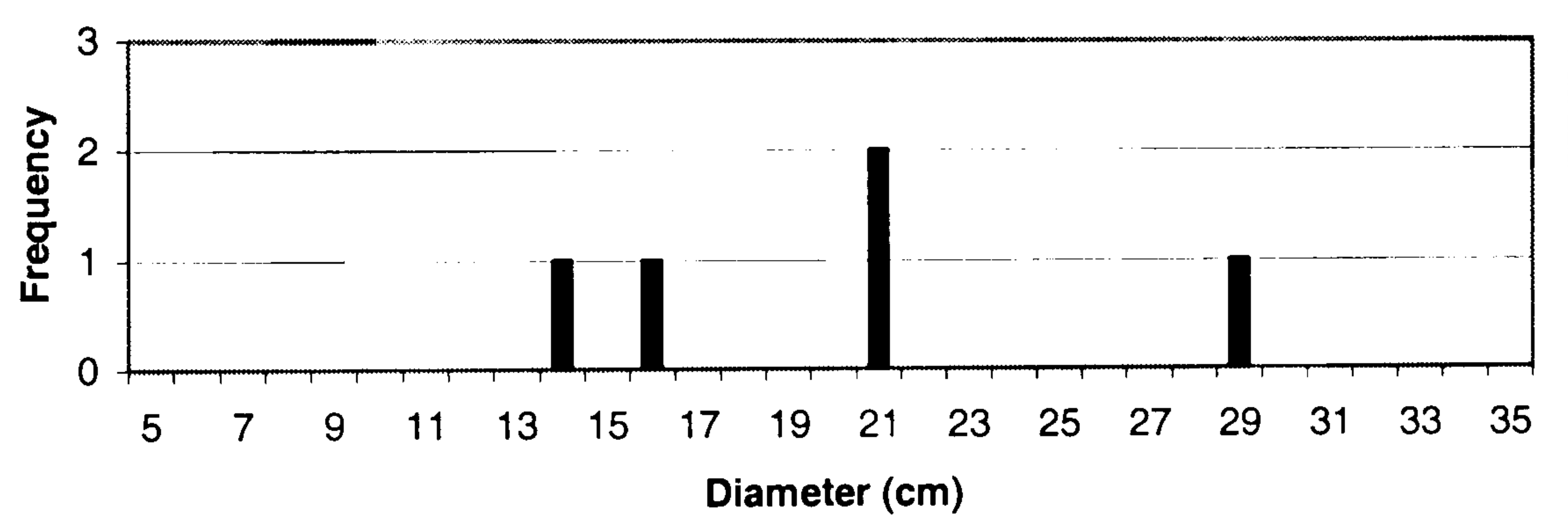
NE Ext. U, Rim Diameter, All Types



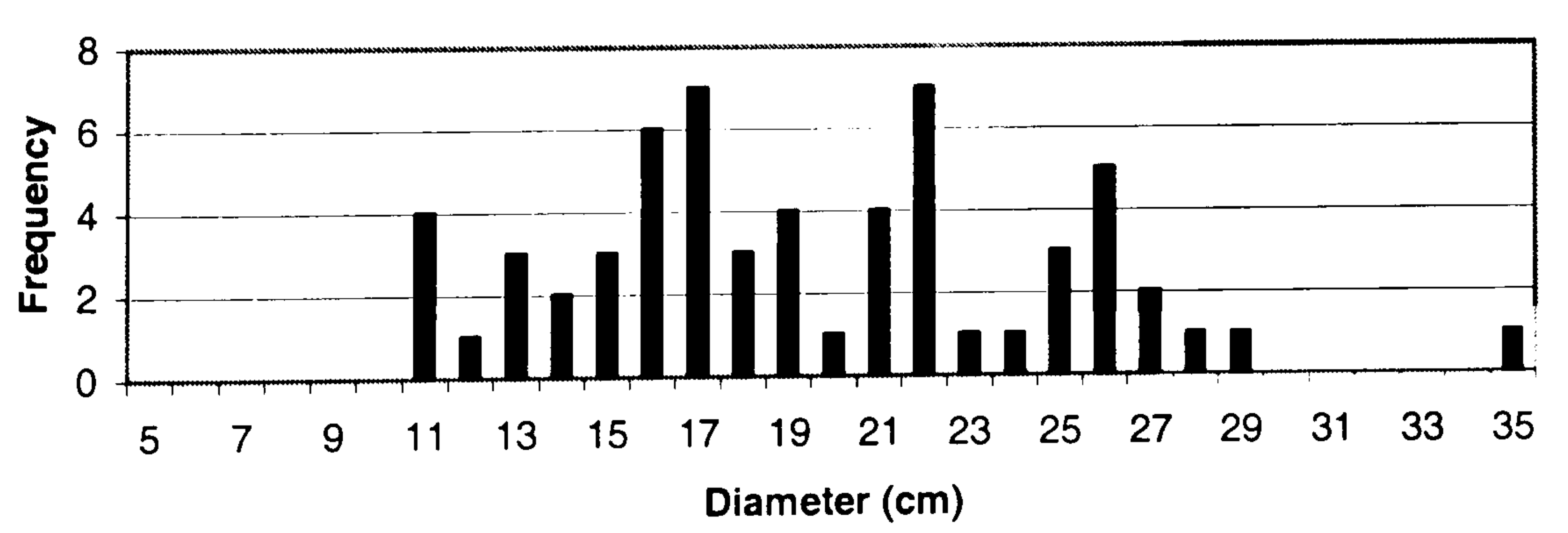
NE Ext. M, Rim Diameter, All Types



NE Ext. L, Rim Diameter, All Types



Galleries, Rim Diameter, All Types



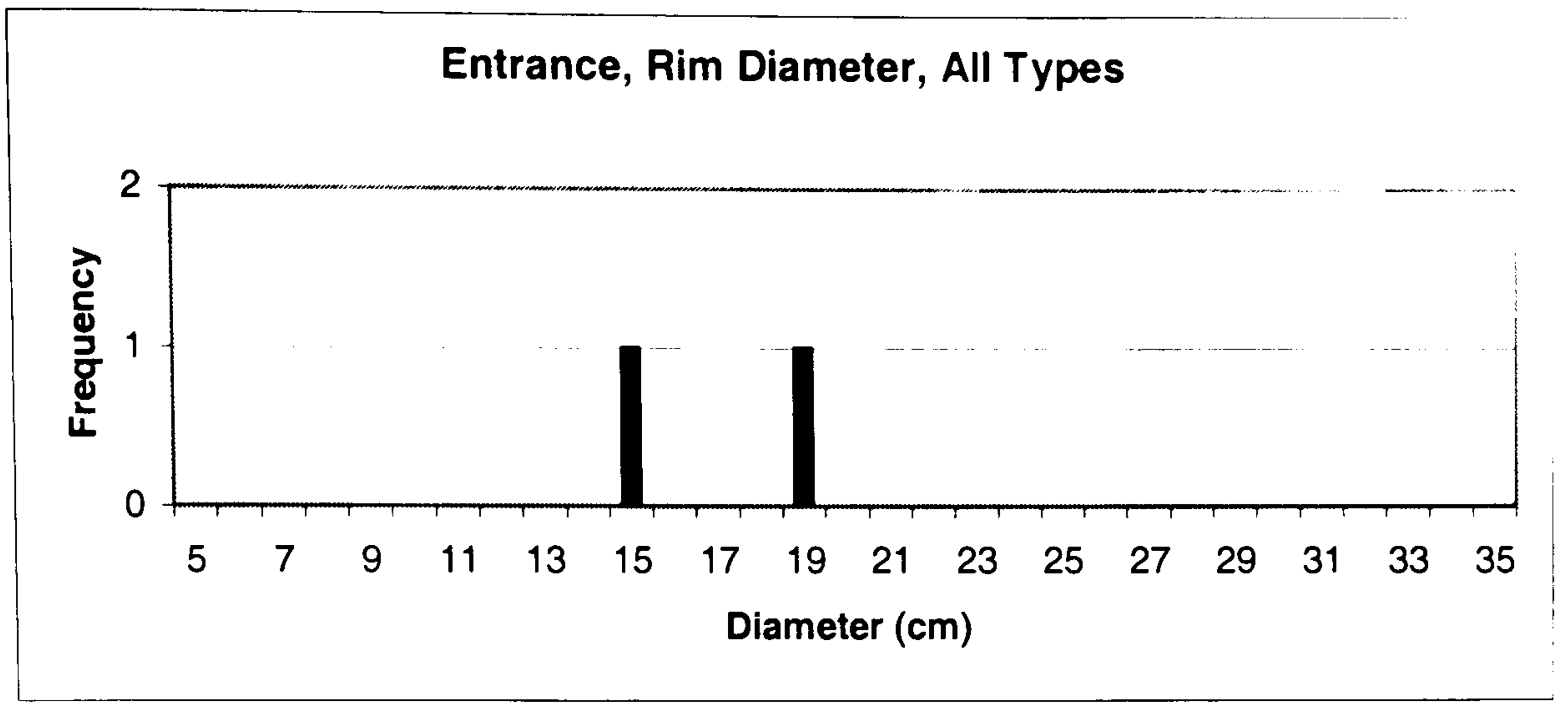
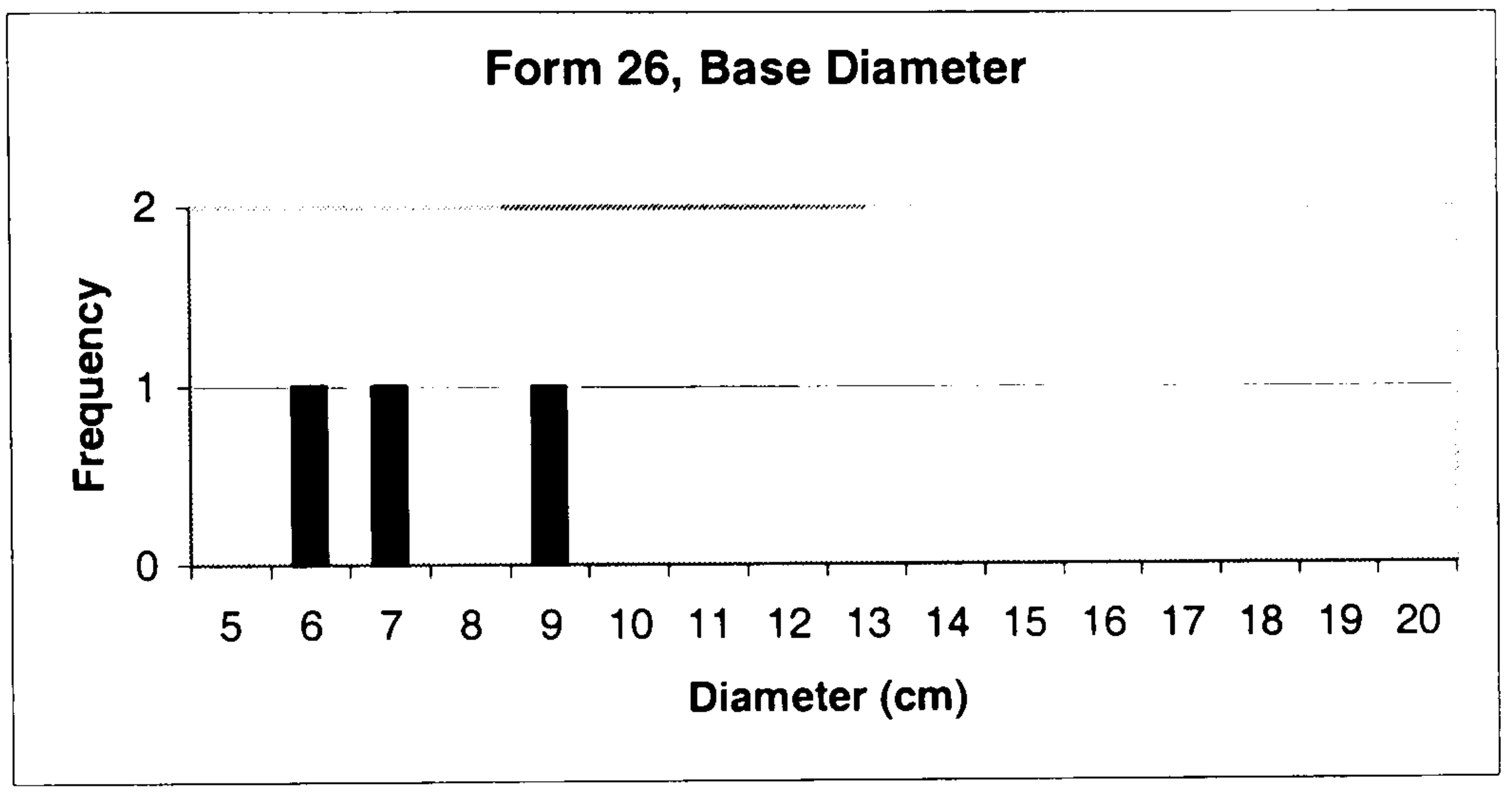
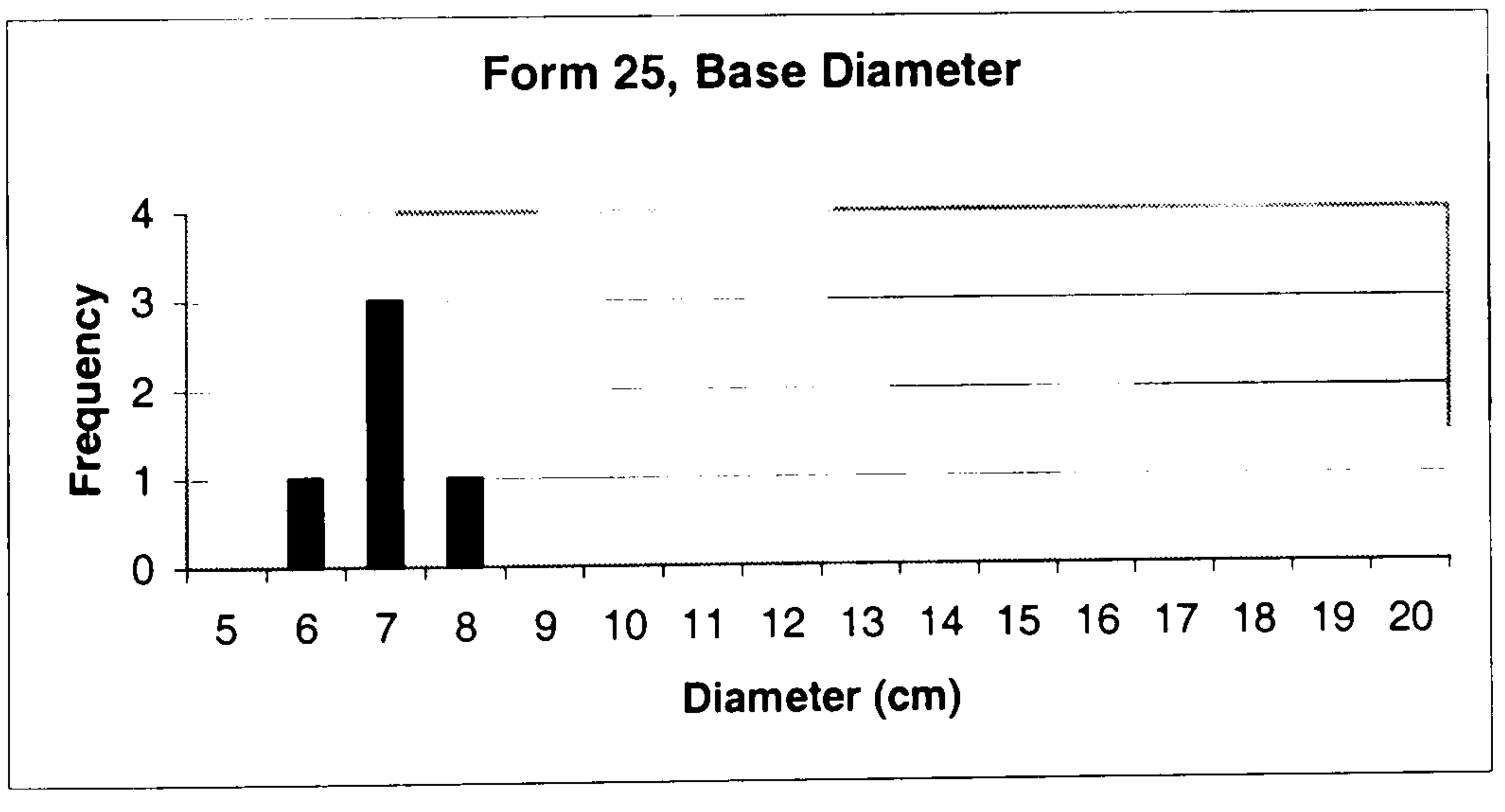
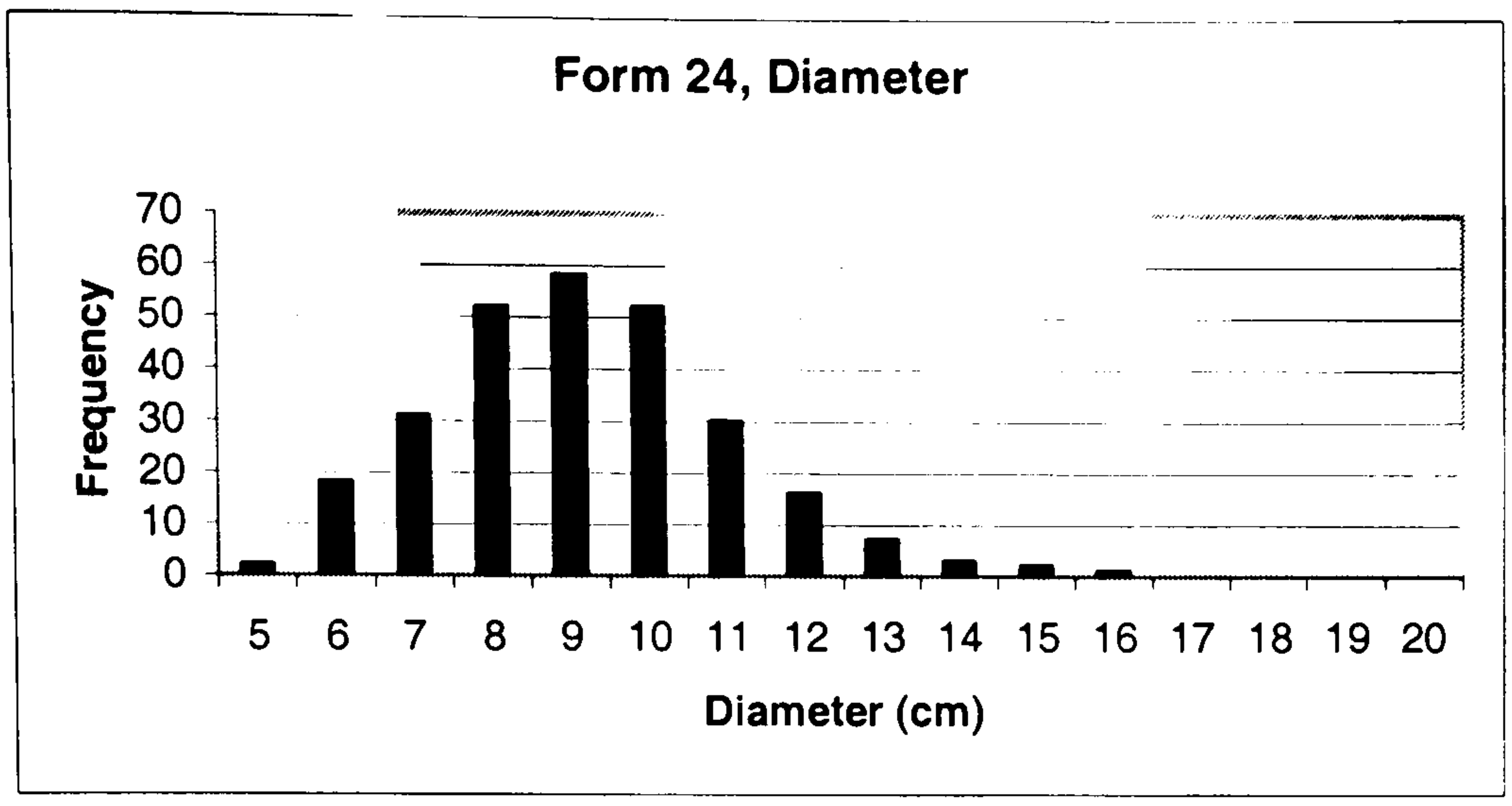
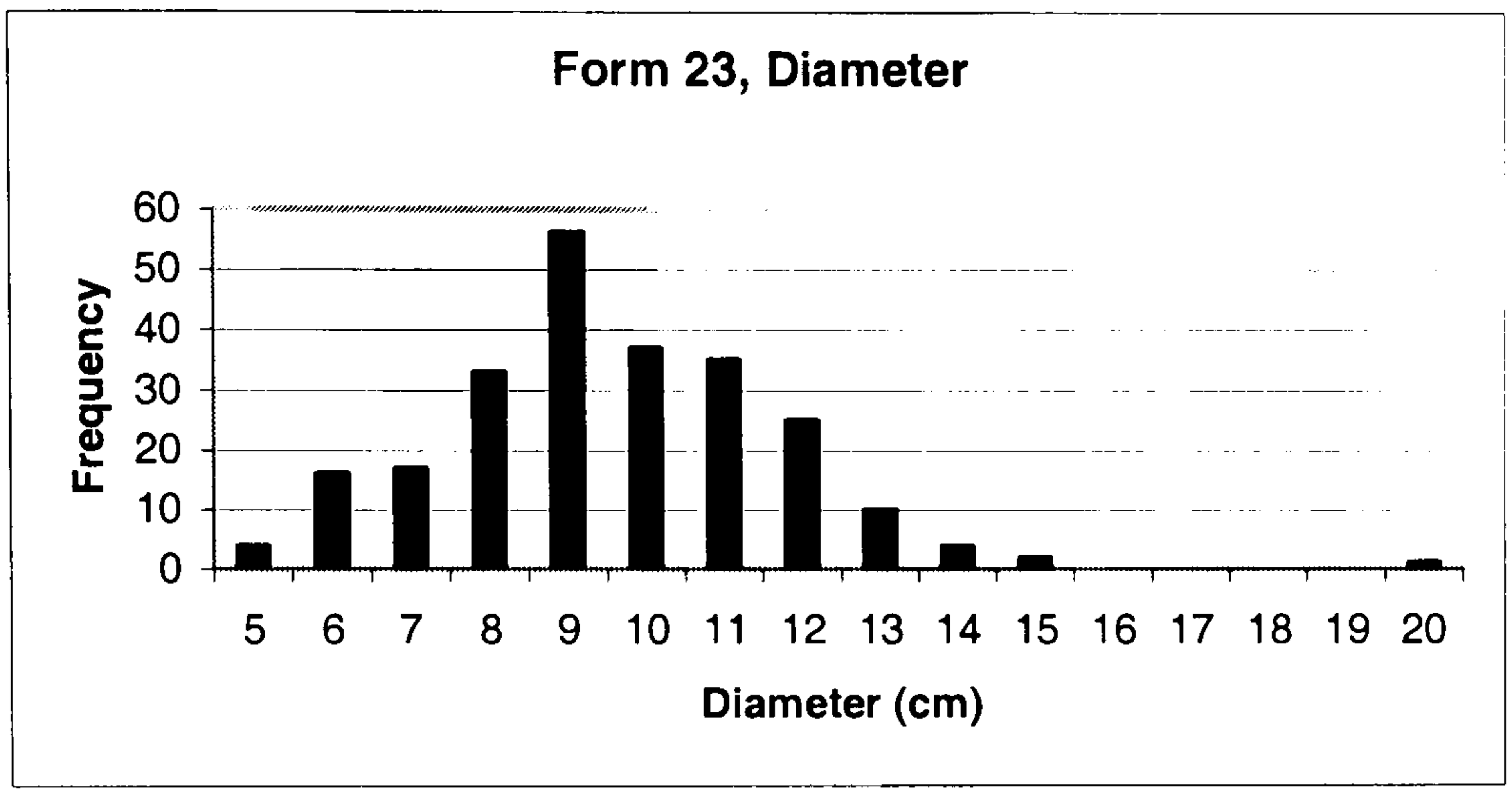


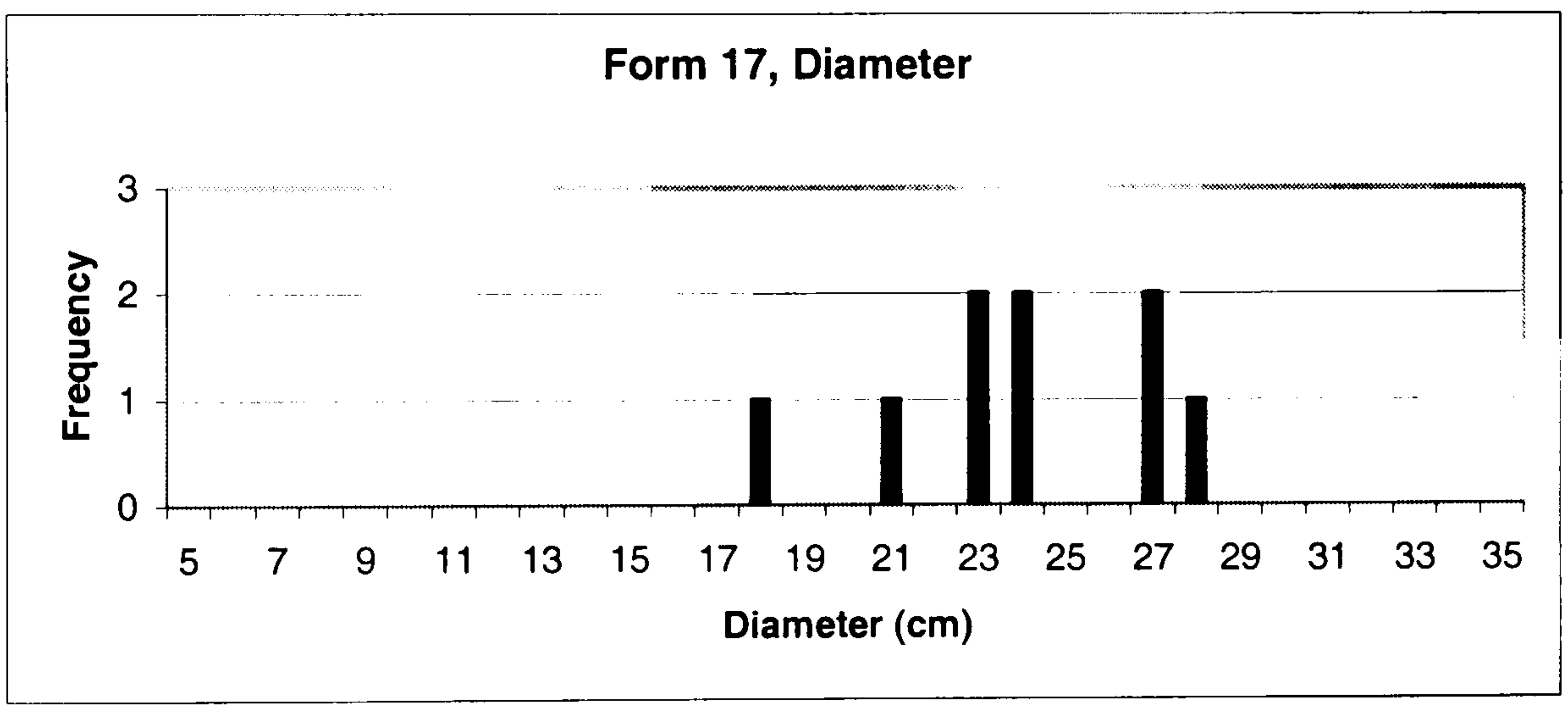
Fig. 6-10: Diameter by Form

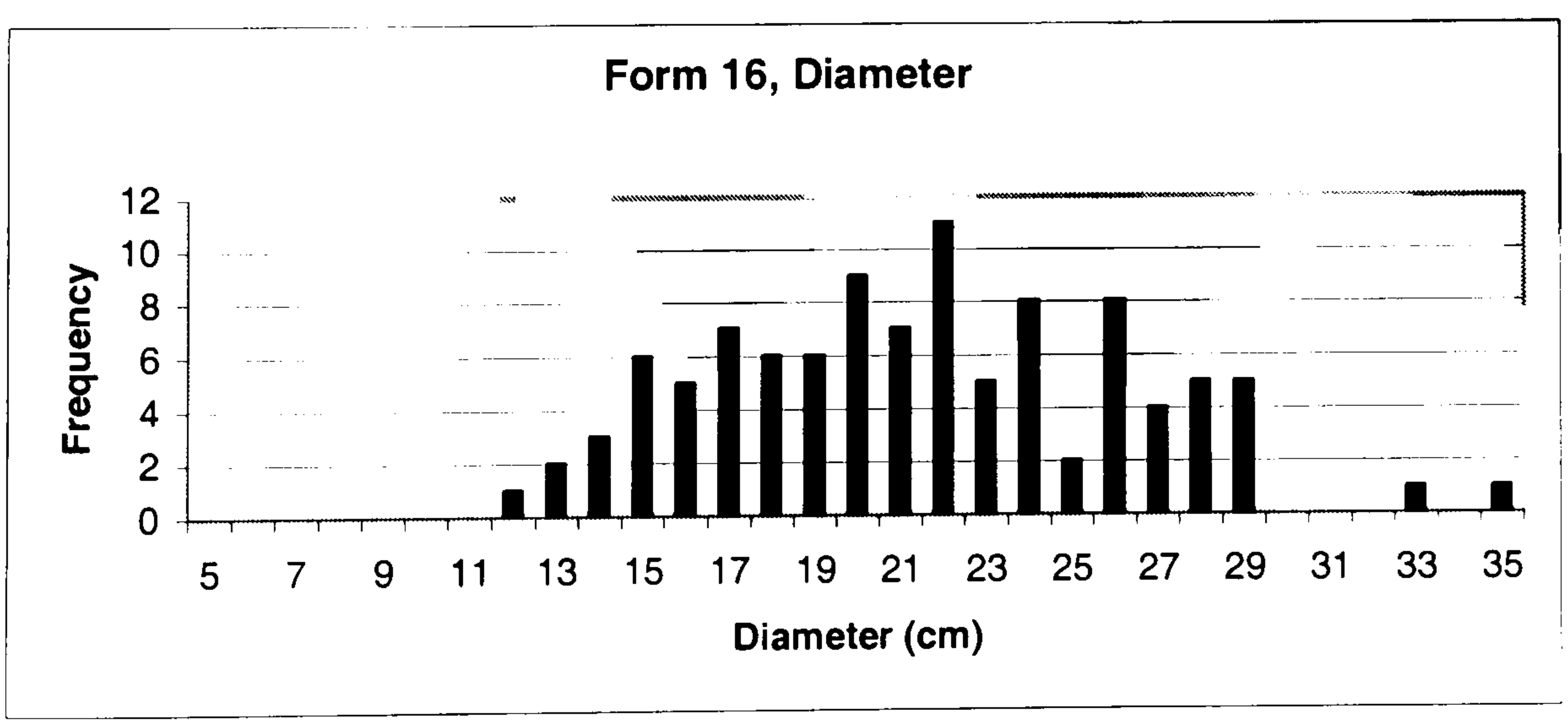


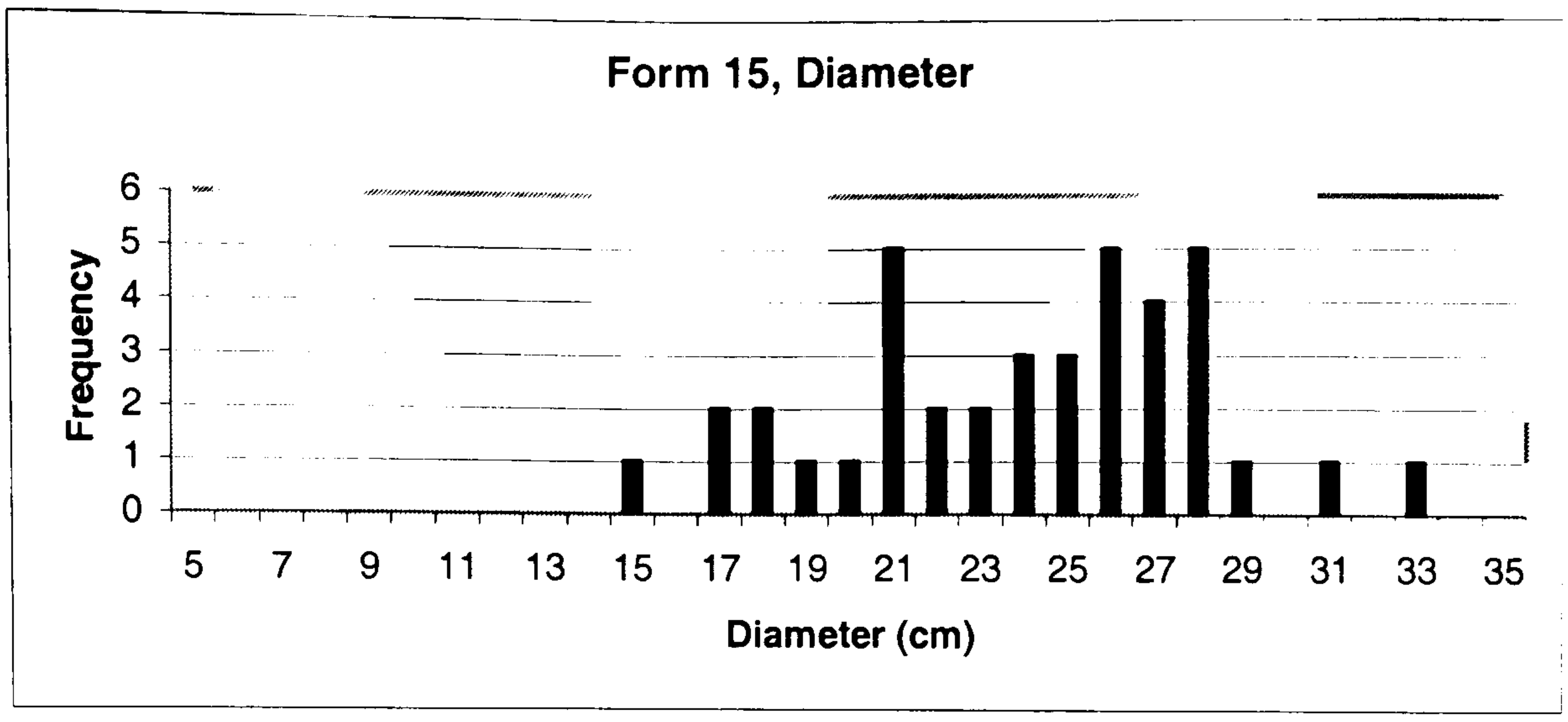


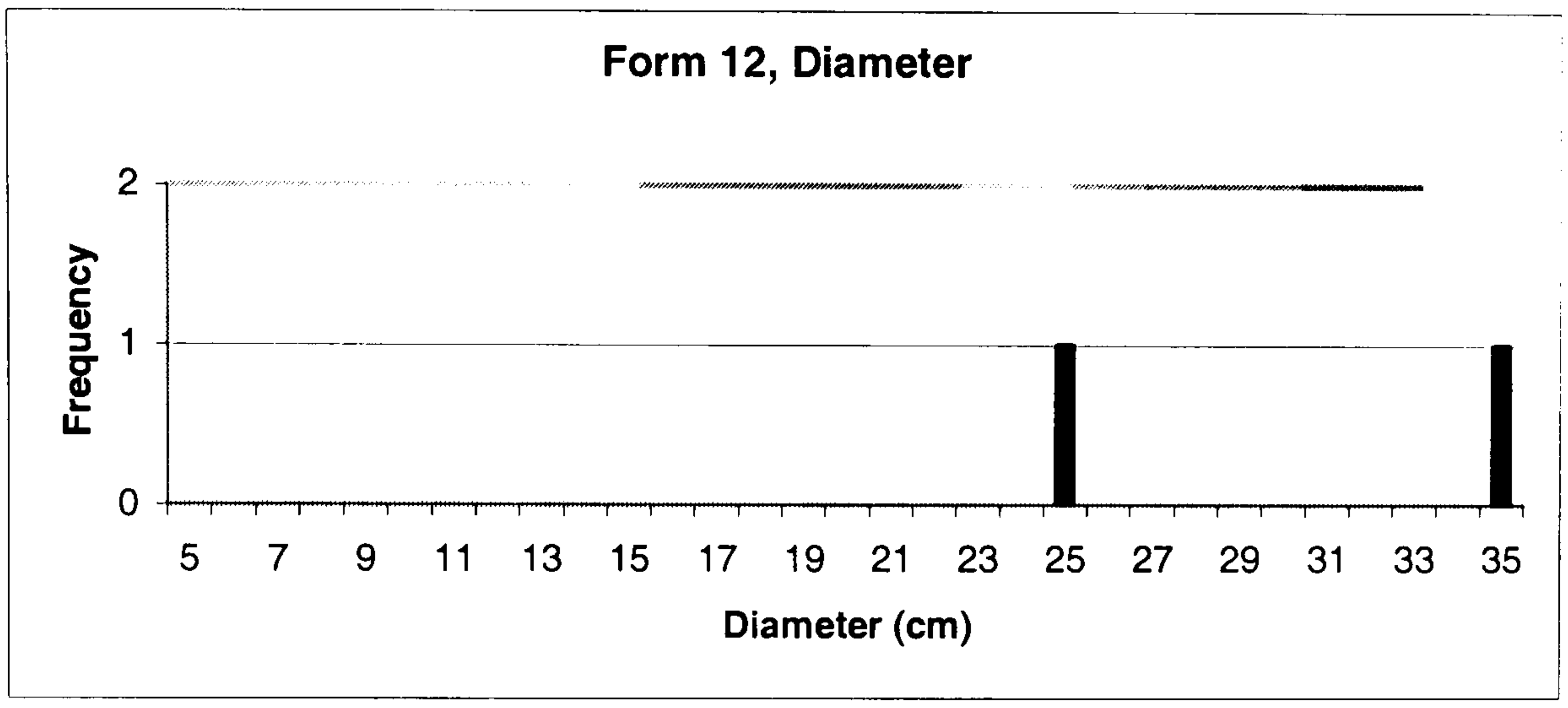

Form 24, Diameter
Frequency
0
10
20
30
40
50
60
70
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Diameter (cm)

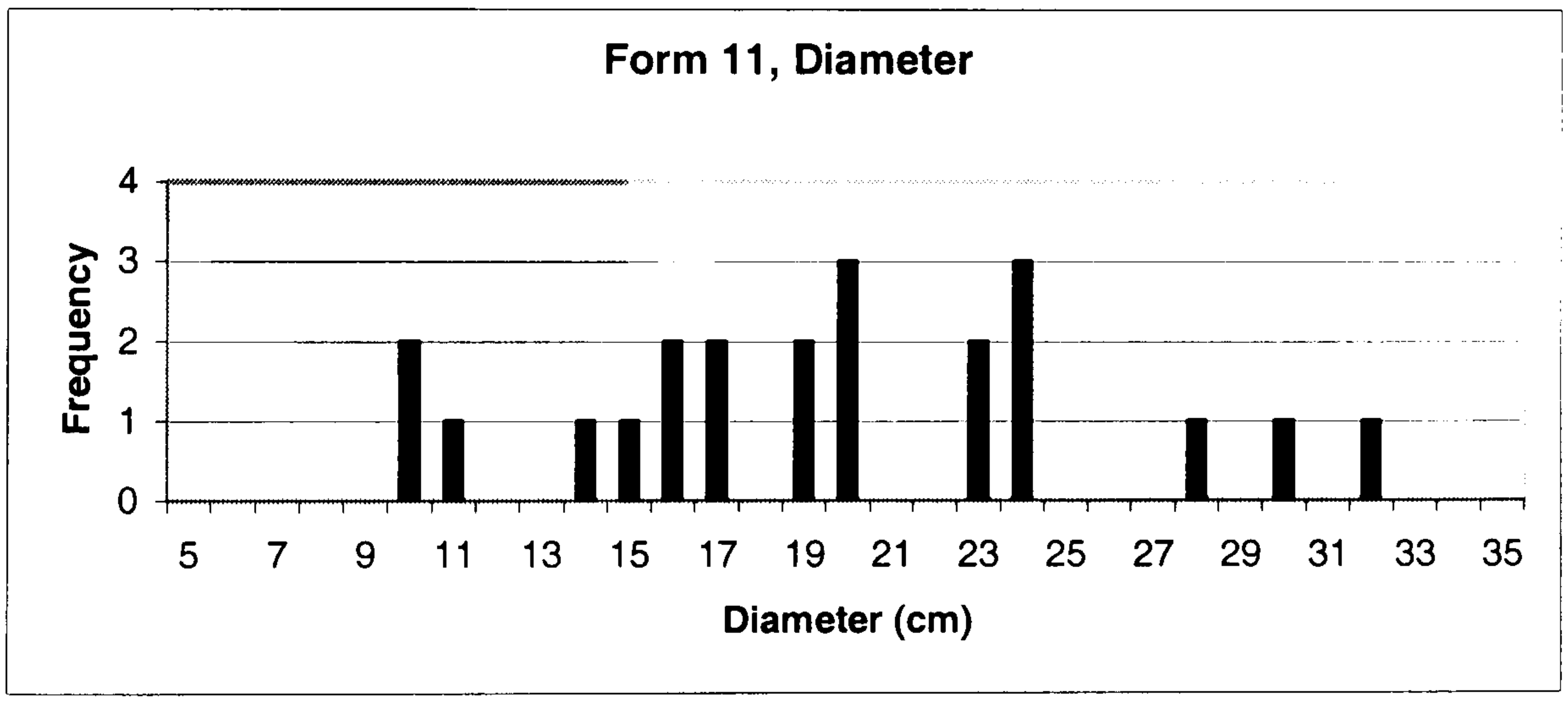

Form 23, Diameter
Frequency
0
10
20
30
40
50
60
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Diameter (cm)

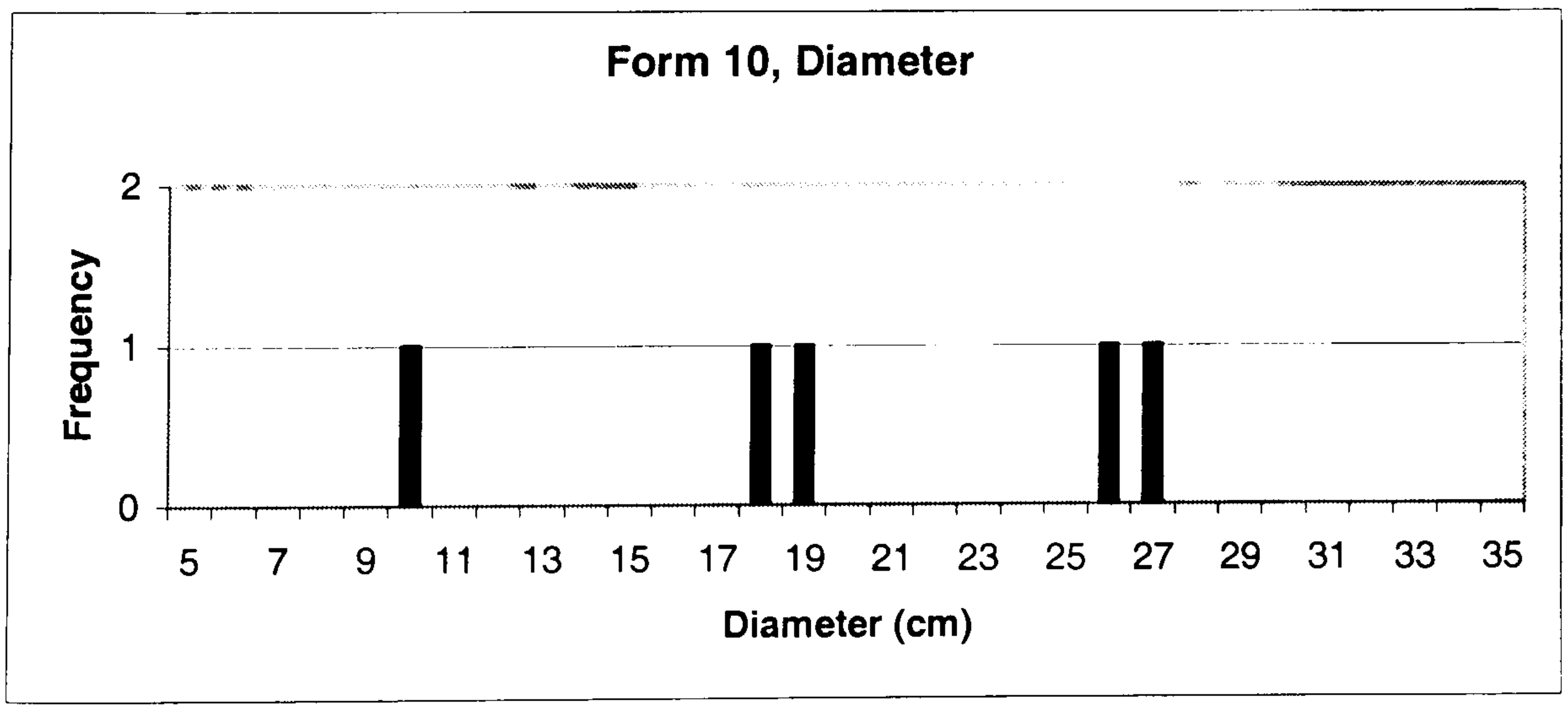

Form 17, Diameter
Frequency
0
1
2
3
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

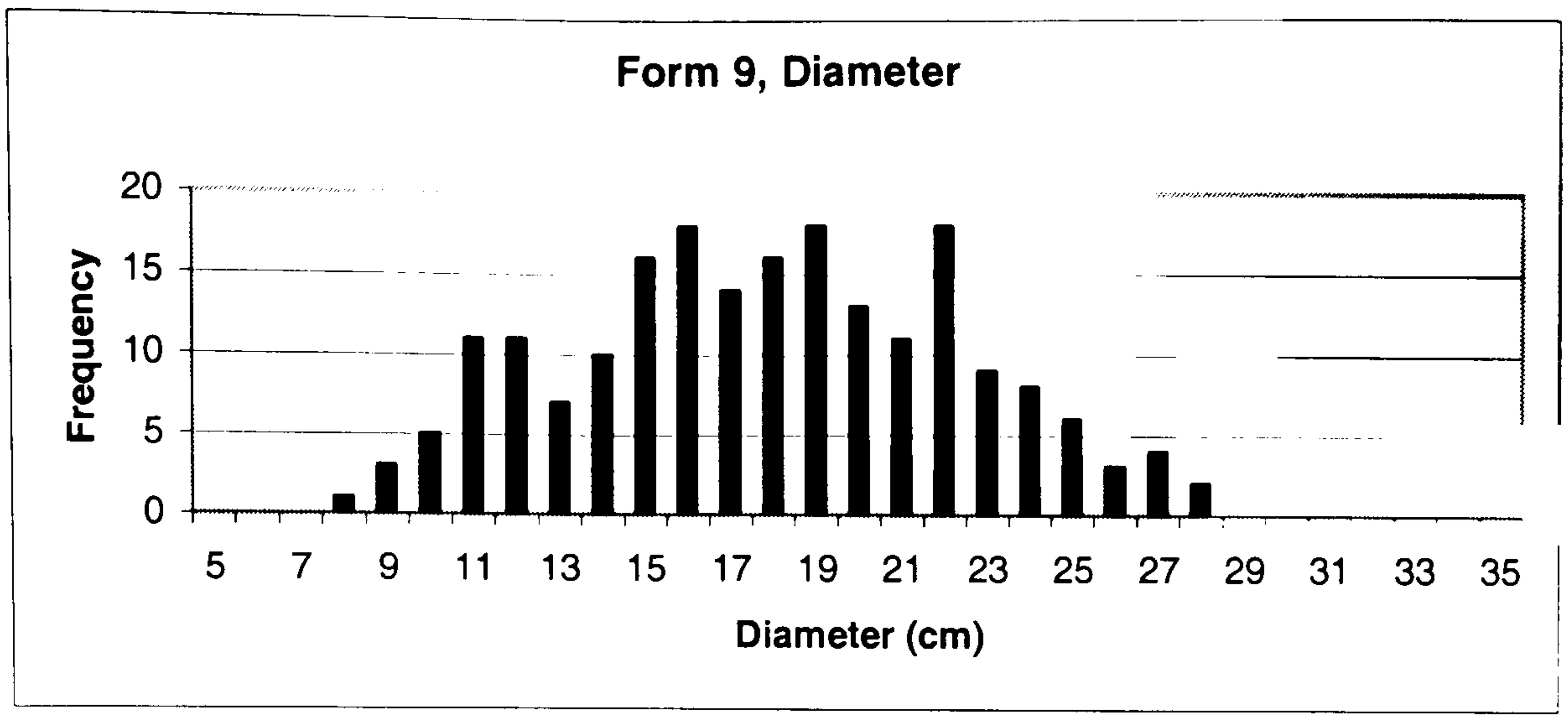

Form 16, Diameter
Frequency
0
2
4
6
8
10
12
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

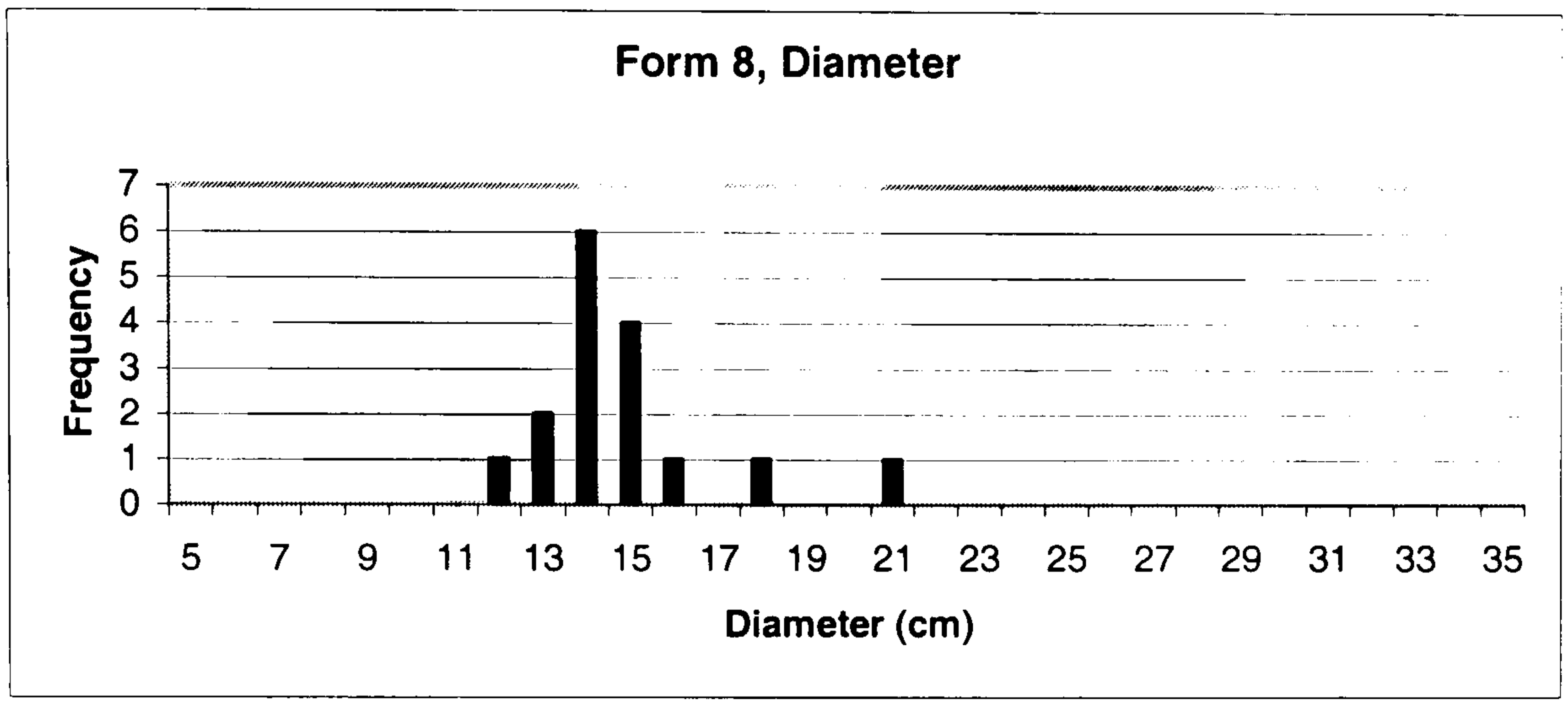

Form 15, Diameter
Frequency
0
1
2
3
4
5
6
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

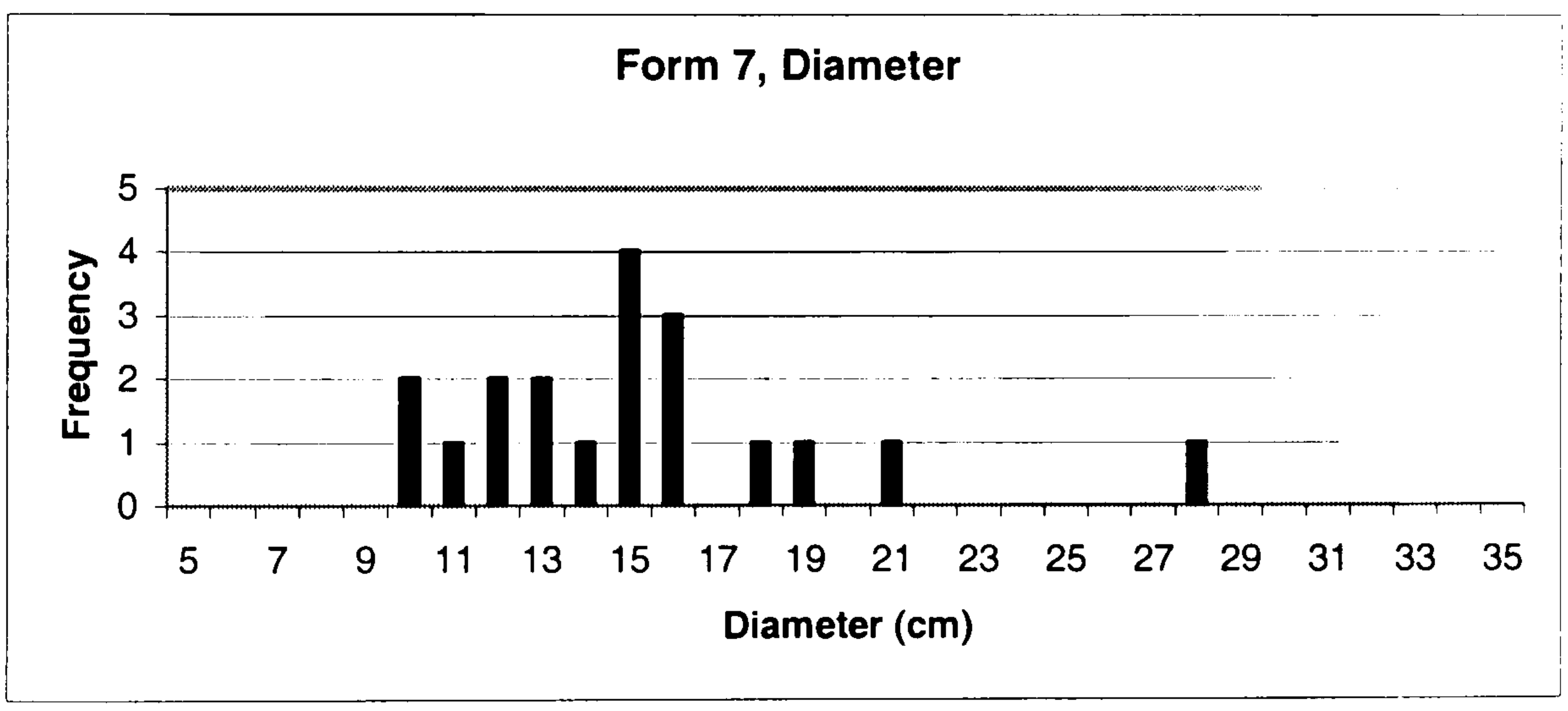

Form 12, Diameter
Frequency
0
1
2
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

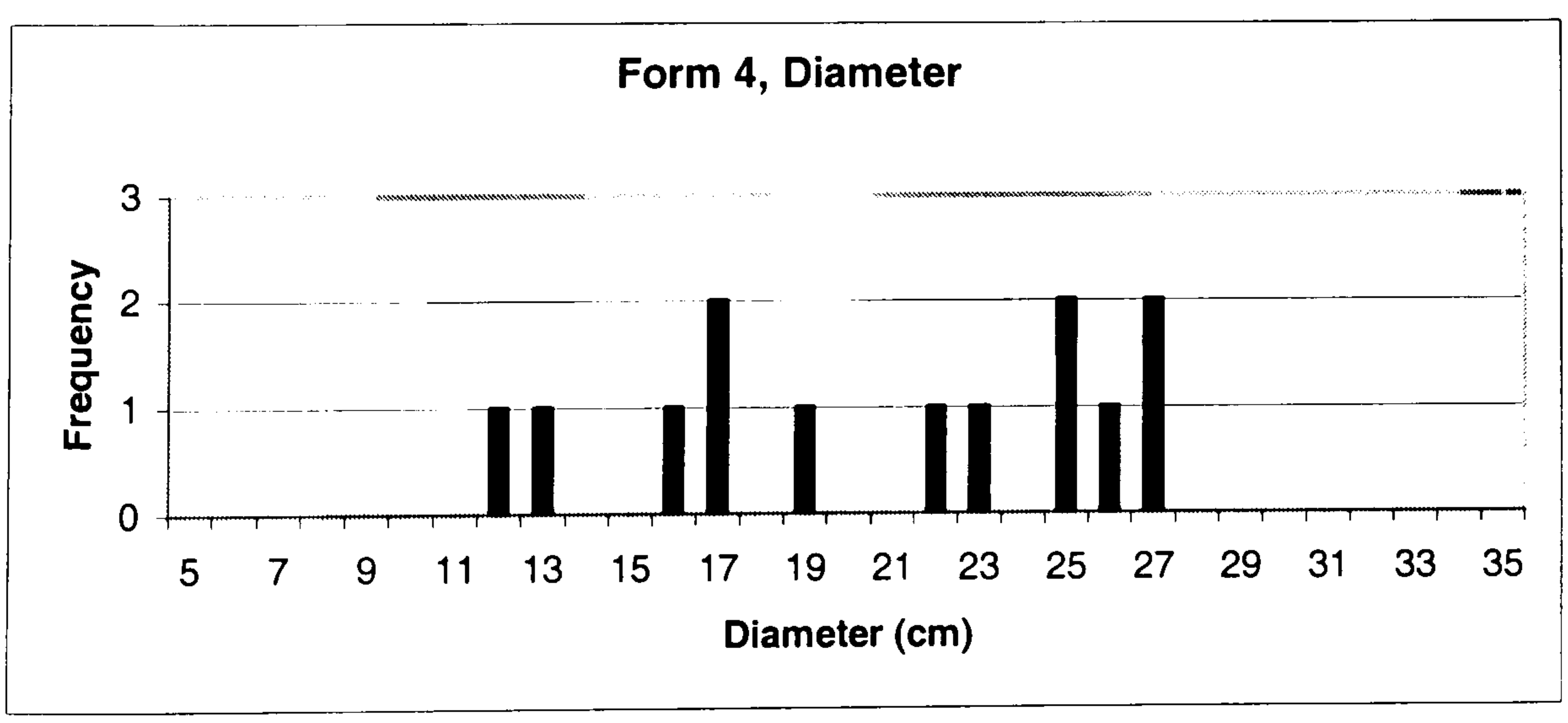

Form 11, Diameter
Frequency
0
1
2
3
4
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

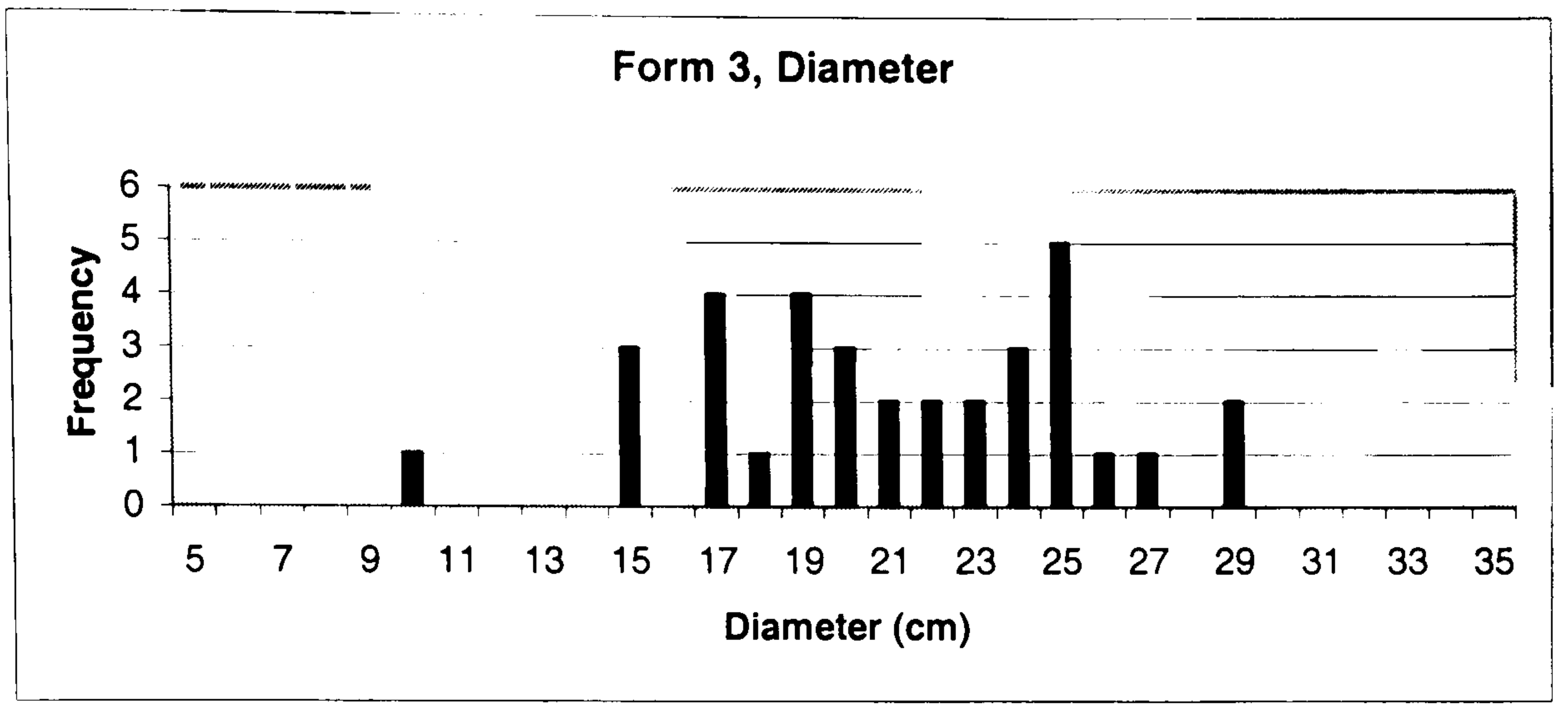

Form 10, Diameter
Frequency
0
1
2
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

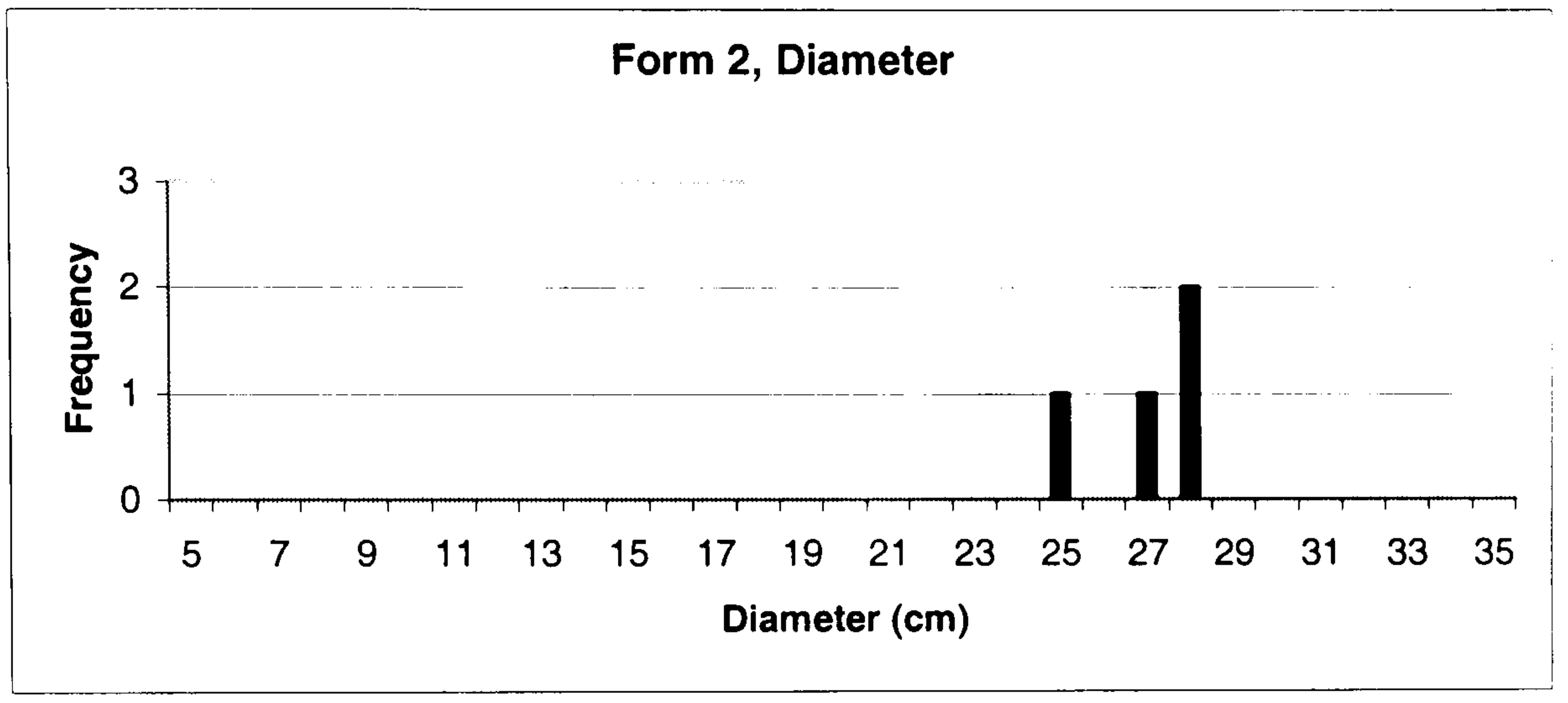

Form 9, Diameter
Frequency
20
15
10
5
0
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

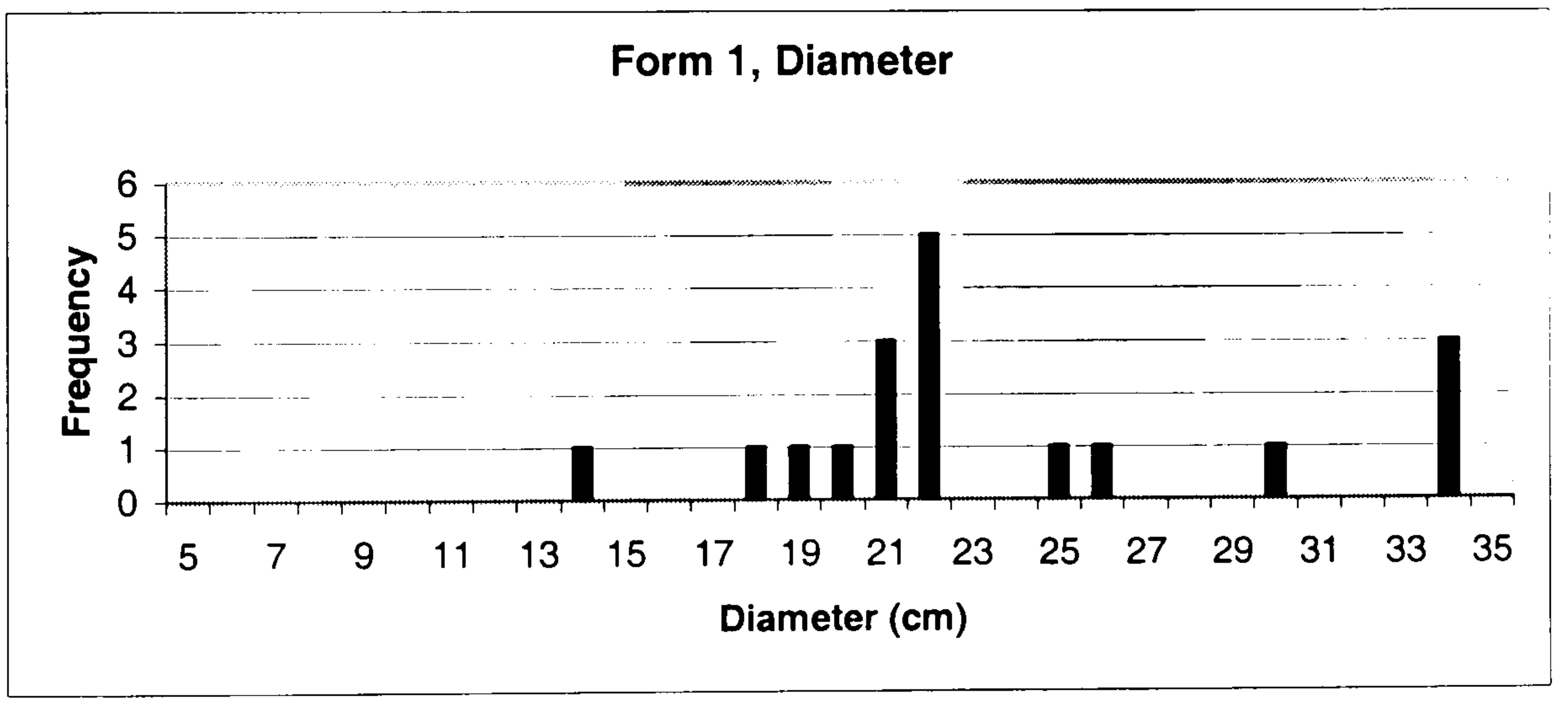

Form 8, Diameter
Frequency
7
6
5
4
3
2
1
0
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)


Form 7, Diameter
Frequency
5
4
3
2
1
0
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)


Form 4, Diameter
Frequency
3
2
1
0
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)


Form 3, Diameter
Frequency
0
1
2
3
4
5
6
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)


Form 2, Diameter
Frequency
0
1
2
3
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)


Form 1, Diameter
Frequency
0
1
2
3
4
5
6
5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Diameter (cm)

6.6 *Firing*

6.6.1 By Phase

An analysis of firing across phases produces a strong pattern (Fig. 6-11). From the earliest phases to the latest, the proportion of oxidised vessels gradually reduces from almost 70% in Phase 11 to less than 20% in Phase 0. This decrease is largely a gradual decline, with a small peak in Phase 7 at just over 70%. Correspondingly, the proportion of unoxidised vessels increases from about 30% in Phase 11 to about 80% in Phase 0. The proportion of irregularly fired and over fired vessels remains low throughout all phases, at less than 5%. The Entrance area and Galleries (unphased contexts) have high proportions of oxidised vessels as well, 70% and 53% respectively. The NE Extension however sees a reverse of the situation, with the earliest phase, NE Extension Lower, having a smaller proportion of oxidised vessels (26% oxidised and 74% unoxidised) than the later phases. There is a slight rise in the quantity of oxidised vessels between the Middle and Upper (46% to 53%). These patterns are unlikely to be due to post-depositional processes as the patterning is so strong and consistent throughout the sequence.

There are also patterns visible within firing profile through the sequence. Generally in the Roundhouse and Cellular phases firing profile type 1 is the most common, which reduces in the Late Iron Age to be taken over by type 8. In more detail, firing profile 1 is present throughout all of the phases and is more common in the Cellular and Roundhouse phases, dominating Phase 10 with a little over 50% by weight but otherwise generally comprising less than 40% of the assemblage. Firing profile 2 is present throughout the phases, generally at between 5% and 18% (although less than 5% in Phases 6, 4, 3, 2 and 1), and is more abundant in Phases 11 and NE Extension Lower, where it forms over 20% of the assemblages. Firing profile 3 is present throughout all of the phases and generally comprises less than 15% of the assemblage, except in the NE Extension Lower where it comprises 30%, and it is slightly more common during the Late Iron Age phases. Firing profile 4 comprises less than 6% of each phase and is more common in the Cellular phases. Firing profile 5 is present infrequently and generally comprises 3% or less of the assemblage, except in Phase 11 where it comprises 8% of the assemblage by weight. Firing profile 6 is present infrequently and always forms 6% or less of the assemblages. Firing profile 7 is rare, providing 2% or less of the assemblages from Phases 7, 1, 0 and Cellular Multiple-phase contexts. Firing profile 8 is present throughout the phases, generally at more than 5% of the assemblage and is more abundant in the Late Iron Age phases. Firing profile 9 is very rare and occurs infrequently, always forming 1% or less of the assemblages. Firing profile 11 occurs only once, forming 1% by weight of the Phase 8 assemblage. Firing profile 12 is present in most of the phases though is more abundant in the Late Iron Age phases, always forming 11% or less of the assemblages. Firing profile 13 is present throughout all of the phases and there appears to be little patterning in its occurrence, generally forming less than 25% of the assemblages. Firing profile 14 is present throughout the phases but always comprises 11% or less of the assemblages by weight and is more abundant during the Cellular phases.

Some types of cracking are caused during firing. These are dunting and fire cracks. Spalling is damage as a consequence of firing. Dunting is present at between 1% and 2% of the assemblage, principally during the Late Iron Age phases. Fire cracking is present throughout at between 5% and 25% of the assemblage. It appears to be slightly less common in the Late Iron Age phases. Spalling is only recorded sporadically, at no more than 1%.

6.6.2 By Form

There are differences between forms with regard to their dominant firing technique (Fig. 6-12). Of the body forms, Form 29 is principally oxidised at a little over 60% overall, Form 21 is principally unoxidised at a little over 80%, while Form 22 has a more even split between the two, with a greater proportion of irregularly fired sherds. The vast majority of Form 28, the lugs, was oxidised.

Of the base sherds, each of the two most common base forms, 23 and 24, have over 60% of their sherds unoxidised, with Form 23 slightly higher than Form 24. The remaining base forms, 25 and 26, were found to be primarily oxidised instead, with over 70% of sherds from each.

Of the rim forms, a greater number were found to have a majority of unoxidised sherds. These were Forms 3, 5, 6, 7, 8, 11, 14, 15, 16 and 17. The remaining rim Forms, 1, 2, 4, 9, 10, 12 and 13, were found to be principally oxidised.

There were also patterns evident in firing profile. A number of forms had their predominant firing profile as type 1: these were Forms 1, 2, 9, 10, 12, 17, 22, 28 and 29. A number had firing profile type 8 as their predominant firing profile; these were Forms 3, 4, 5, 8, 11, 14, 15 and 16. Firing profile type 3 was the predominant type for Forms 6, 7, 13 and 26. Firing profile type 13 was the predominant type for Forms 23 and 24. Form 25 had firing profile type 14 as its most common type. Form 21 had no single firing profile type which was more common.

The results from analysing firing technique and firing profile type illustrate a great degree of overlap. Those forms which are principally oxidised tend to have a firing profile of type 1, while those which were principally unoxidised tended to have a firing profile of type 8. The base forms tended to have firing profiles of types 13 and 14.

Figure 6-11: Firing by phase

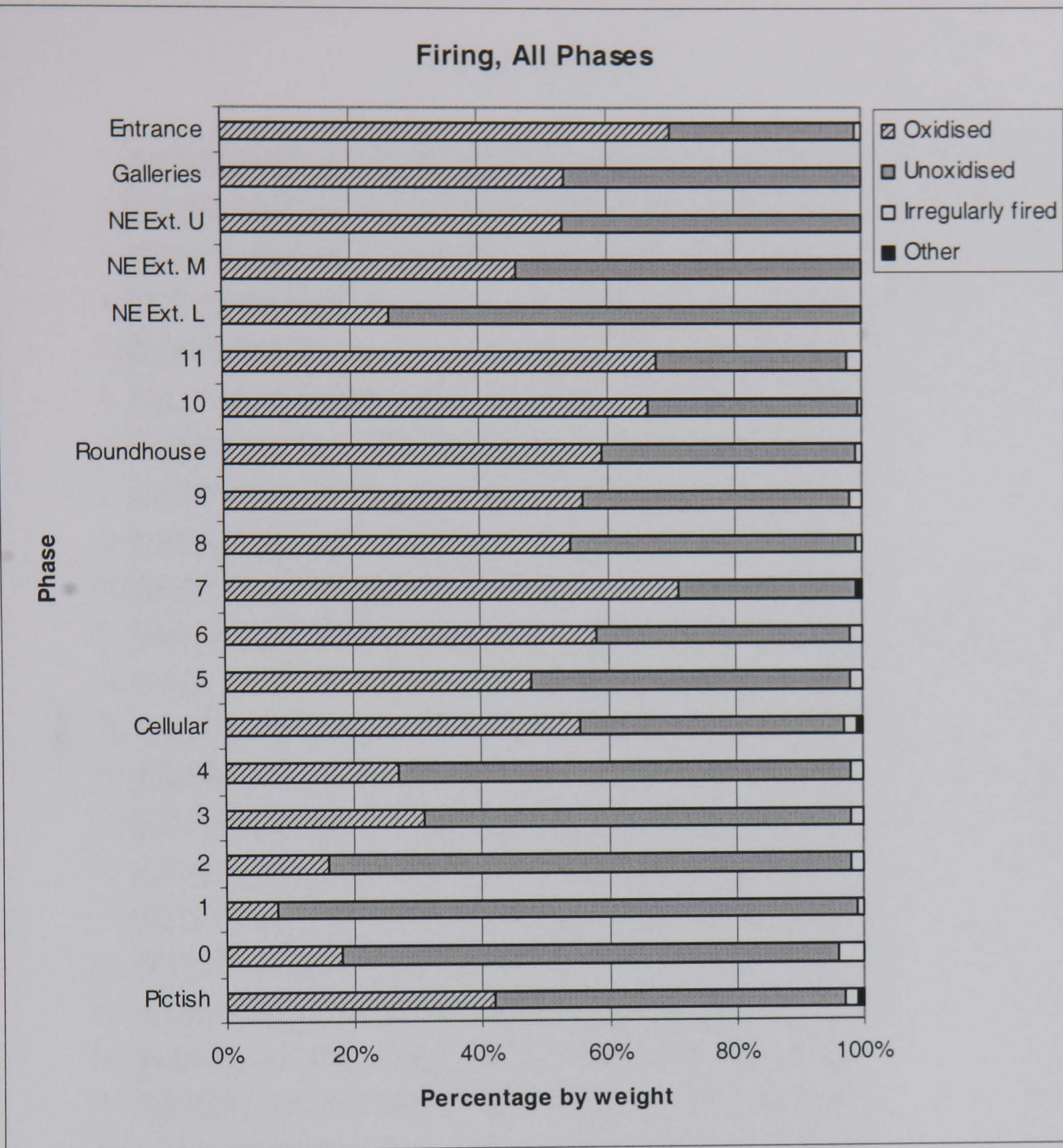
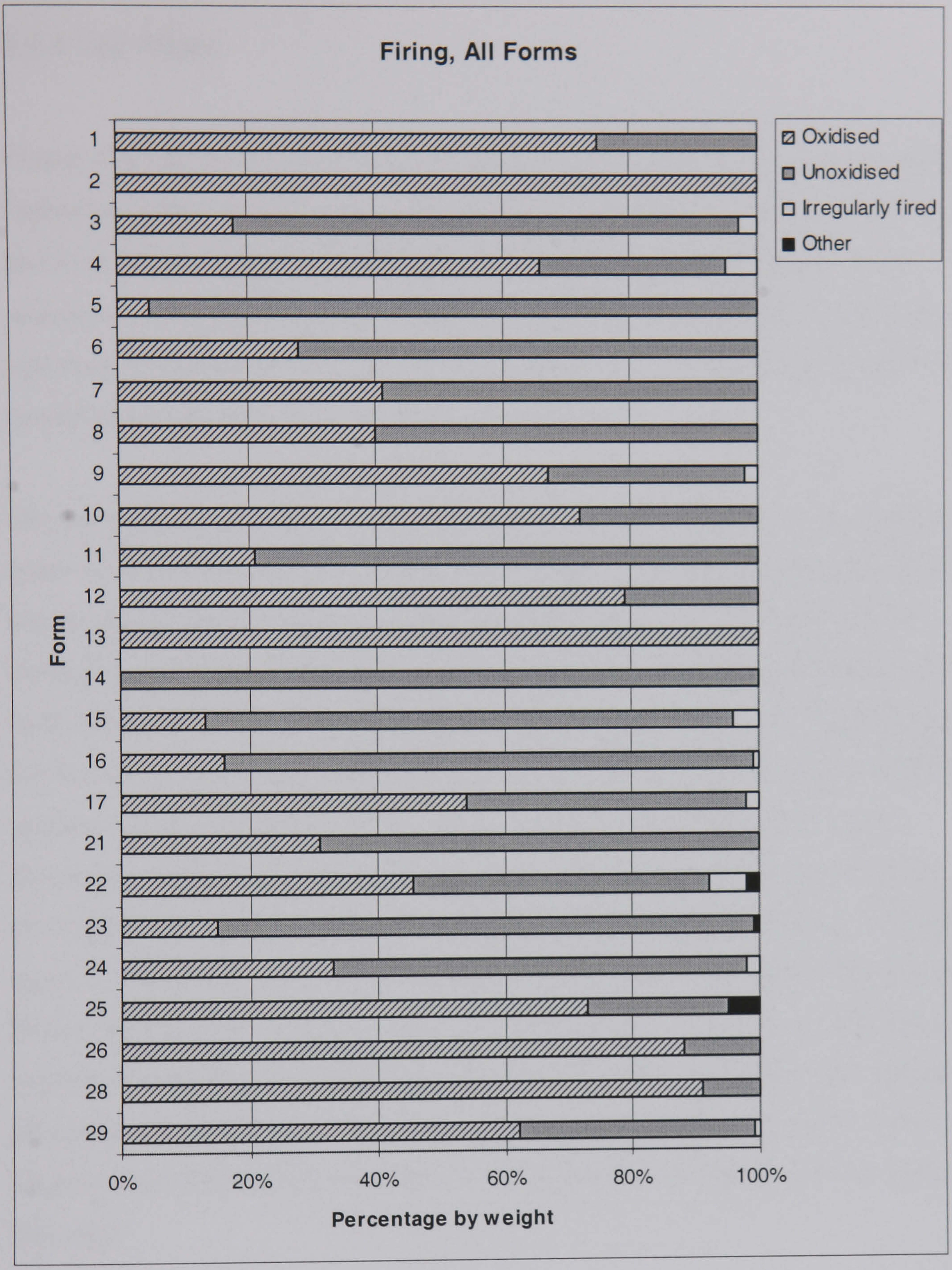


Figure 6-12: Firing by form



6.7 Decorative Technique

6.7.1 By Phase

Phases with the lowest percentages of undecorated sherds (Fig. 6-13) comprise NE Extension Lower, Phase 11 and Phase 7, where undecorated sherds in each make up less than 50% by weight. The NE Extension Middle phase has just over 50% undecorated sherds by weight. Those phases where undecorated sherds form the vast majority comprise the Late Iron Age phases, 4 to 0, where undecorated sherds comprise around 90% of the assemblage by weight.

The decorated sherds alone can be analysed to determine patterns relating to the types of decoration present and their proportions throughout the sequence (Fig. 6-14). Applied decoration is generally the most common decorative technique throughout all of the phases, although there are two exceptions. During the NE Extension Lower incised decoration is the most common type. In Phases 10 and the NE Extension Middle, applied decoration forms the minority, with less than 40% applied decoration present. Phase 10 has a higher percentage of impressed decoration, while the NE Extension Middle has a higher percentage of incised decoration. The Cellular phases are dominated by applied decoration, with all other types of decoration combined providing less than 30% of the decoration, and in Phase 7 this is taken to an extreme case, with over 90% of the decoration being applied. Channelled decoration is present throughout the Cellular and Roundhouse phases and is found in the NE Extension Lower and Middle phases but not in the Upper phase. Channelled decoration is also present in Phases 4 and 2 in the Later Iron Age.

6.7.2 By Form

A straightforward analysis of the proportions of decorated against undecorated sherds for each form produces some strong patterns (Fig. 6-15). A number of the rim forms are not decorated at all; these are Forms 6, 11, and 14. Only one rim form has 100% of its sherds decorated, and that is Form 2. Form 15 has less than 1% of sherds with impressed decoration.

The majority of Forms 3, 8, 9, 12, 13 and 16 are undecorated. The majority of Forms 1, 5, 7, 10 and 17 are decorated. Form 4 had an almost 50:50 split between decorated and undecorated sherds.

With the base forms, Forms 23 and 24 exhibit small quantities of decoration while Forms 25 and 26 are completely undecorated. All of the decorative motifs were found on the base interior. Base Form 23 had only channelled decoration present while base Form 24 had primarily impressed decoration with a small percentage of channelled decoration.

Some forms exhibited only one type of decorative technique (Fig. 6-16). These were: Forms 2, 3 and 5 with impressed decoration only; Forms 12, 13 and 17 with applied decoration only. Types 9 and 29 exhibited the most variety in decorative techniques with all types represented.

About 80% of the sherds of Form 22 are decorated and about 55% of the sherds of Form 21 are decorated. About 70% of the sherds of Form 28 (lugs) are decorated, of which only channelled decoration was present as motif Cha.I, or internal fluting. Form 29 primarily exhibits applied decoration (84% of sherds by weight) with the remainder comprising small quantities of channelled, impressed, incised and other types with some combinations of techniques.

Figure 6-13: Decorated and undecorated sherds by phase

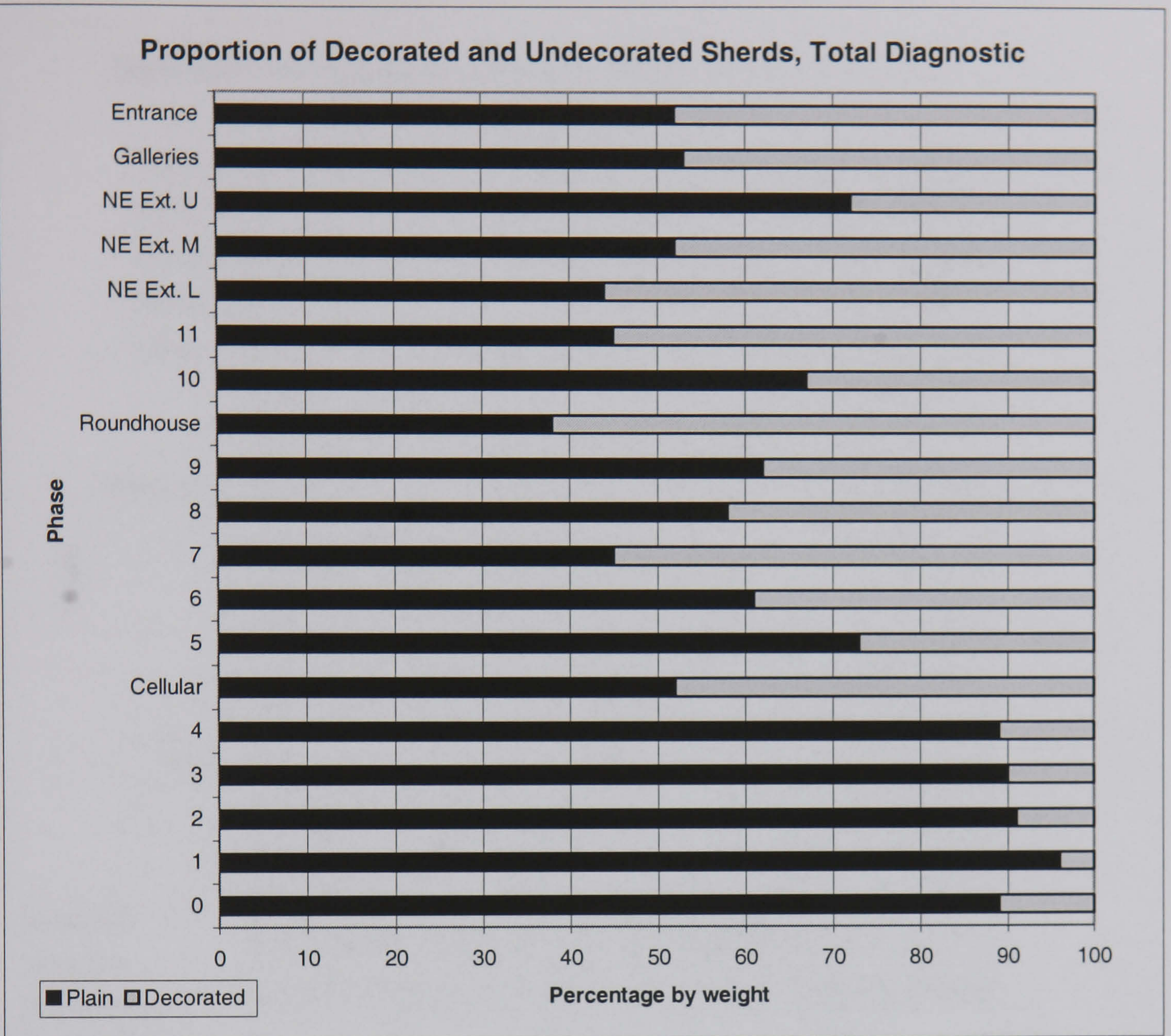


Figure 6-14: Decorative technique by phase

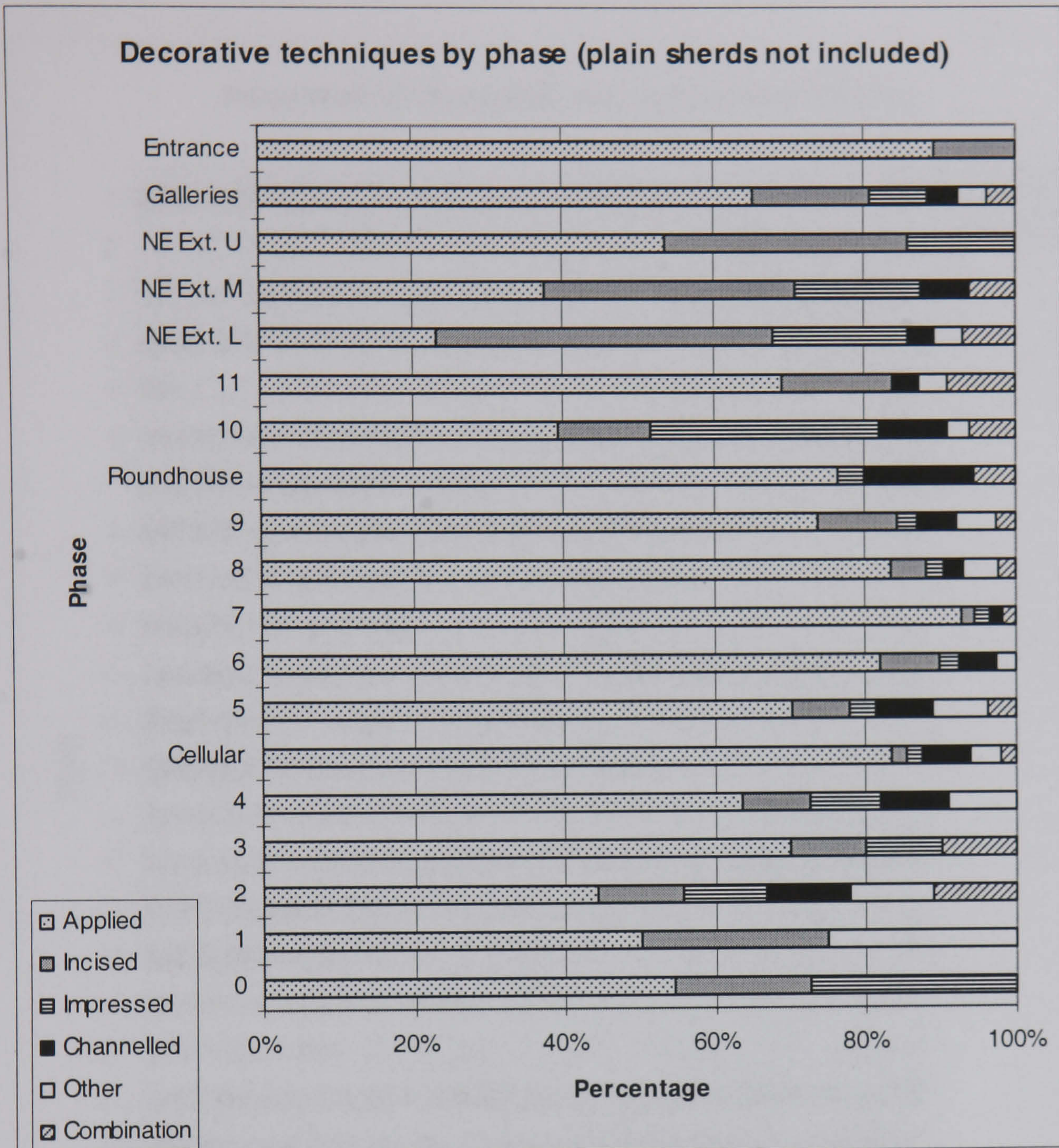


Figure 6-15: Decorated and undecorated sherds by form

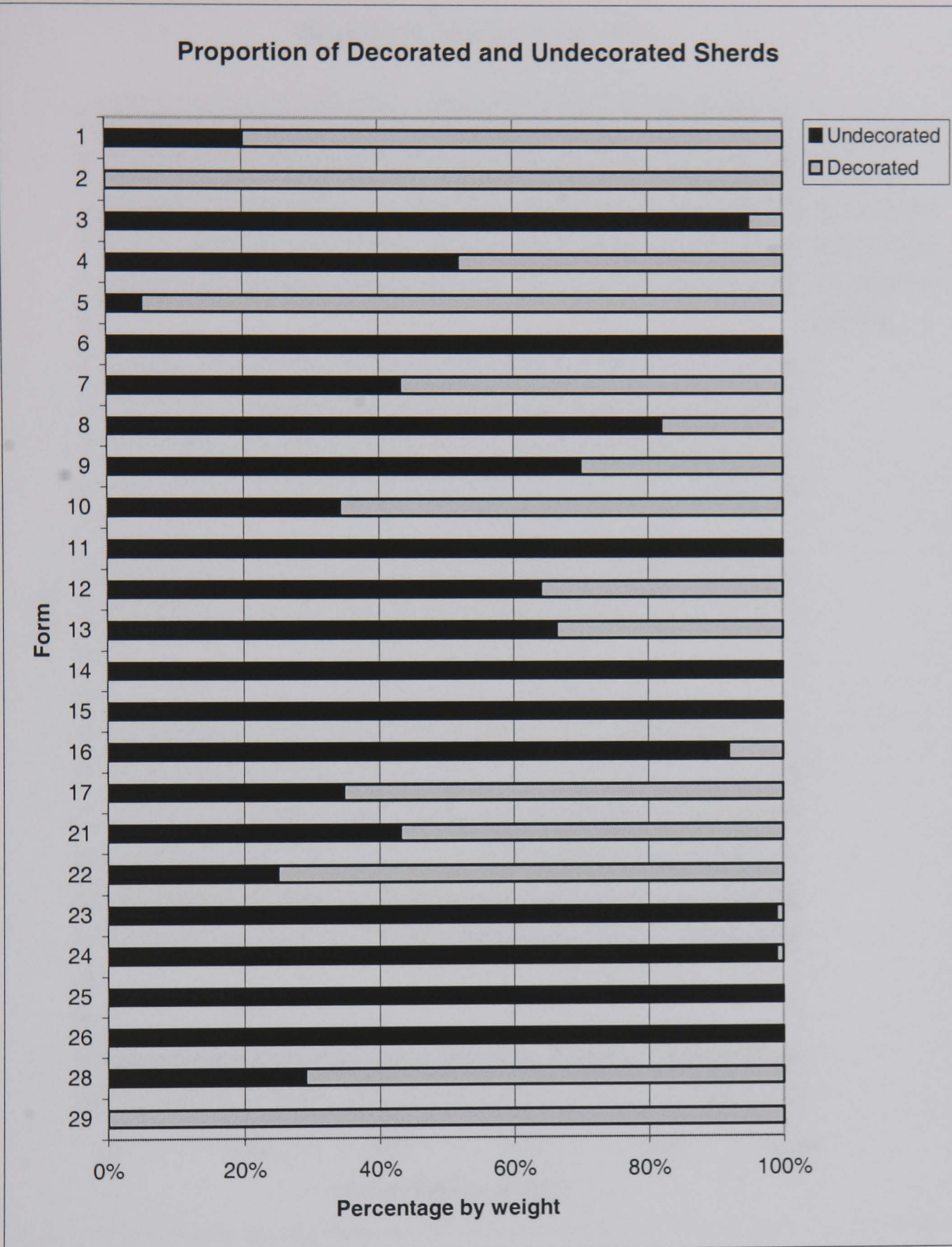
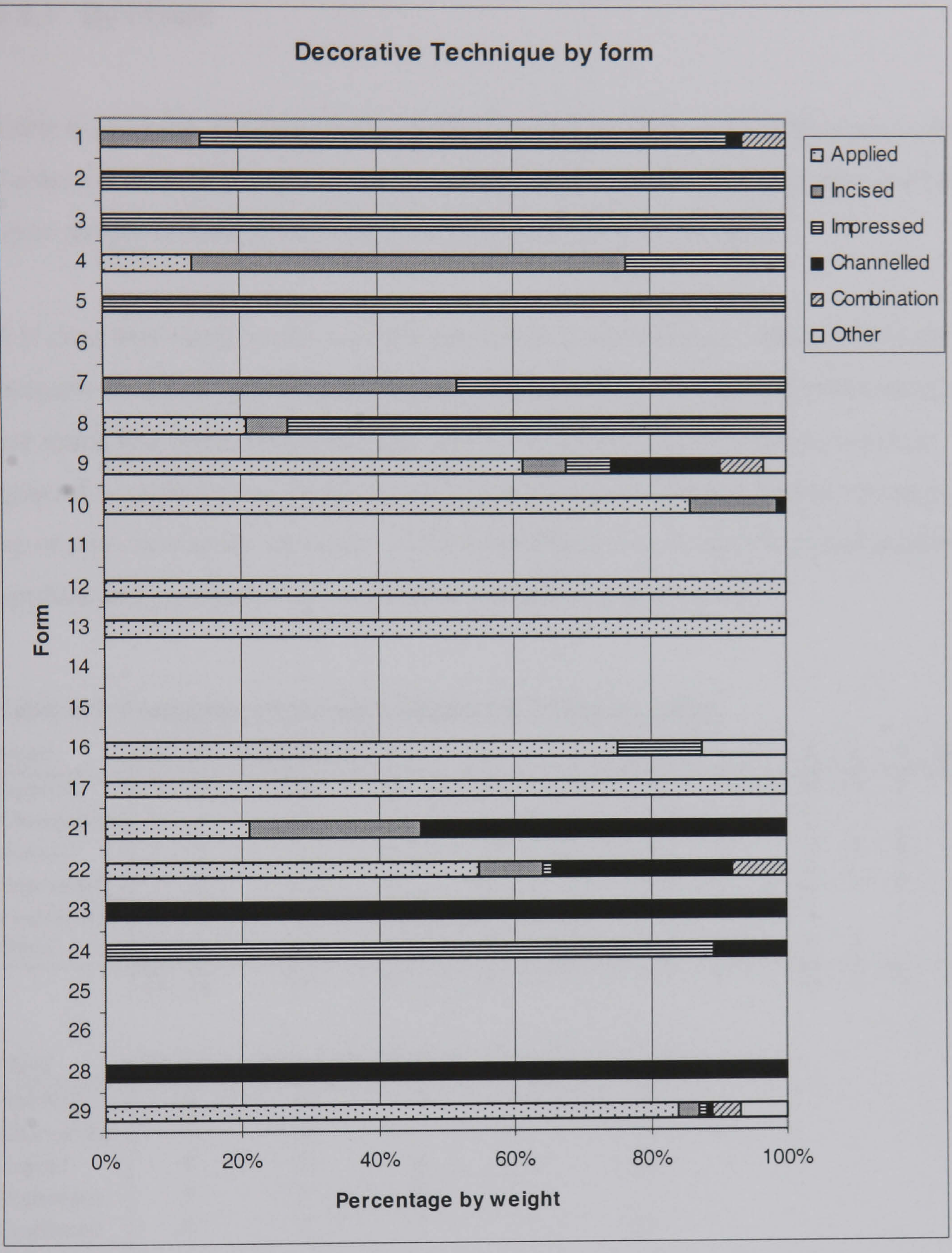


Figure 6-16: Decorative technique by form



6.8 *Decorative Motifs*

6.8.1 By Phase

Table 6-7and Fig. 6-17 below shows the quantity of different motifs in each phase. Tables 6-9 to 6- 48 present counts of each motif by phase. The quantities are based upon simple counts of each recorded motif, rather than weights.

It is clear that some motifs are only present in limited phases, while others are ubiquitous. Some general patterns can be identified. Sherds with combined motifs are much less common during the Late Iron Age phases, where decoration in general is much lower. In the Roundhouse phases, combined motifs can be made up of any decorative technique, while from Phase 8 onwards they tend to be only applied and channelled or two different types of applied motif.

Table 6-7: Frequency of different decorative motifs by phase

Motif	11	10	Roundhouse	9	8	7	6	5	Cellular	4	3	2	1	0	LIA
Applied	5	6	10	8	8	13	9	12	19	8	5	11	5	5	3
Channelled	1	5	7	5	1	1	1	3	11	1		2			
Incised	3	3	2	9	2	1	5	8	3	2		3	3	2	1
Impressed		11	5	2	1	2	2	3	7	3	2	6	1	3	1
Combined	2	5	4	7	2	6	2	4	13		2	2		2	
Other	1	1	1	2	2		2	2	2	3		2	2		
	12	31	29	33	16	23	21	32	55	17	9	26	11	12	5

Motif	NE Ext L	NE Ext M	NE Ext U	Entrance	Galleries
Applied	4	5	4	7	12
Channelled	1	3			3
Incised	8	10	4	2	11
Impressed	3	6	2		15
Combined	5	6	1		15
Other	1				1
	22	30	11	9	57

Wavy cordons and star-shaped cordons are very common. Some motifs appear throughout the sequence, such as App.A.i and App.A.ii, which are usually the most common of all motifs present in any given phase.

Wavy cordons (App.A) appear in every single phase. Raised wavy cordons (App.B) appear in every phase except 11, 9, 0, NE Extension Lower and Upper. Star-shaped cordons (App.C) appear in every phase except 11, 10, 1, NE Extension Lower and Middle. Raised star-shaped cordons (App.D) appear less often, in phases 7, 5, 2, Roundhouse and Cellular-Multiple-phase contexts.

The presence of curvilinear devices (App.M and App.N) is found in Phases 10, 9, 8, 7, 6, 5, 2, 1, 0, Cellular Multiple-phase contexts, Entrance and Galleries Unphased.

Plain cordons (App.I and App.J) are present in Phases 11, 10, 9, 8, 7, 5, Roundhouse and Cellular Multiple-phase contexts and Galleries Unphased. Impressed star-shaped cordons (App.E) are found in Phases 10, 9, 7, 6, Roundhouse and Cellular Multiple-phase contexts, NE Extension Middle and Entrance Unphased. Pinched cordons (App.F) are found in Phases 9, 8, 7, 6, 4 and Cellular Multiple-phase contexts.

Other motifs with limited distribution include App.K in Phases 5, 0, Cellular Multiple-phase contexts and Galleries Unphased. Diagonally incised cordons (App.H) are found in Phases 5, Roundhouse and Cellular Multiple-phase contexts, NE Extension Lower and Galleries Unphased.

A number of other types appear only rarely, such as App.O in Phase 6, 2, and Roundhouse and Cellular Multiple-phase contexts. Bosses (App.L) appear only in Phase 2 and Galleries Unphased. Stabbed or impressed cordons (App.G) only appear in Phases 7, Cellular Multiple-phase contexts and Galleries Unphased.

The greatest variety of cordoned motifs was found in Phases 7, 5, 2, Cellular Multiple-phase contexts and Galleries Unphased, with more than 10 different types present in each. There is generally less variety in the Roundhouse phases, some of the LIA phases, and the NE Extension phases.

Channelled Motifs

There are a number of variations based upon channelled arches, such as single (Cha.D.i and ii), double (Cha.D.iii and iv) or multiple arches (Cha.D.v and vi), or low curves (Cha.F), all of which may demonstrate repetition around the vessel where enough is preserved. All of these motifs are recorded in Phases 11, 10, 9, 8, 7, 2, Roundhouse and Cellular Multiple-phase contexts, NE Extension Lower and Middle, and Galleries Unphased.

Channelled lines are also recorded, again as single (Cha.A), double (Cha.B) or multiple (Cha.C) parallel lines, and which can be horizontal, vertical or diagonal. These are found in Phases 11, 10, 9, 8, 7, 5, Roundhouse and Cellular Multiple-phase contexts and NE Extension Middle and Galleries Unphased.

Zigzag channelling (Cha.E) may be seen as a variation on arches and may reflect the zigzagging of the cordons; it is present only in Phases 2, Cellular Multiple-phase contexts and Galleries Unphased so presents little chronological use.

Fluting (Cha.I) is recorded in Phases 10, 9, 6, 5, 4, 2, Cellular and Roundhouse Multiple-phase contexts and Galleries Unphased.

Other oddities, such as neck grooves (Cha.J) or shoulder grooves (Cha.K) are infrequent and recorded only in Phase 11 for the former and Phase 5 for the latter, while Cha.H is only seen in Phase 10. Circular grooves on the base interior (Cha.G) are recorded only in the Roundhouse and Cellular Multiple-phase contexts.

There is a wider variety of channelled motifs during phases 10, 9, 5, NE Extension Middle, and in the Roundhouse and Cellular Multiple-phase contexts. In the remaining phases there is just one channelled motif in each.

Incised Motifs

A number of incised motifs only appear once. These are: Inc.D.ii, Inc.E.ii, Inc.F.i, Inc.F.ii, Inc.H, Inc.I.i, Inc.J.i, Inc.K.ii, Inc.K.iii, Inc.L.i, Inc.M.iii, Inc.M.iv, Inc.M.v, Inc.M.vi, Inc.M.vii, Inc.M.viii, Inc.M.ix, Inc.N.iv, Inc.Q.i, Inc.Q.ii, Inc.R.i, Inc.T.

Other motifs which only appear two or three times are Inc.D.i, Inc.F.iii, Inc.I.ii, Inc.J.ii, Inc.J.iii, Inc.K.i, Inc.L.ii, Inc.M.ii, Inc.N.i, Inc.N.iii, Inc.O.i, Inc.O.iv and Inc.S.

It is very difficult to ascertain patterns when motifs only appear once or twice throughout the whole sequence. A number of other motifs are a little more common. The most common incised motif is Inc.E.i, followed by Inc.G and Inc.P, and smaller numbers of Inc.N.ii and Inc.O.iii.

Inc.E.i is present in Phase 10, 9, 6, 2, 1, 0, Roundhouse and Cellular Multiple-phase contexts, NE Extension Lower and Middle, and Galleries Unphased. Inc.G is present in Phases 10, 9, 5, all NE Extension phases and Galleries Unphased. Inc.P is present in Phases 10, 9, 6, 5, 0, NE Extension Lower and Upper and Galleries Unphased. Inc.N.ii is present in Phases 5 and all NE Extension phases. Inc.O.iii is present in Phases 9, NE Extension Middle and Galleries Unphased.

There are a greater variety of incised motifs in the Cellular phases, in the NE Extension phases and in the Galleries Unphased.

Impressed motifs

The most common impressed motifs are rows of impressions (Imp.H) of various types, which are present in almost all phases except 11, 8, 7, 6, and 5.

Fingernail impressions of various kinds (Imp.A) are found in Phases 10, 7, 5, 4, Roundhouse, Cellular and Late Iron Age Multiple-phase contexts, NE Extension Upper and Galleries Unphased.

Pits along the top of the rim (Imp.F) are present in Phase 4, 2, 1, 0 and Galleries Unphased.

Impressed bases (Imp.G.i to iii) are found in Phases 9, 8, 7, 3, 2, NE Extension Middle, and Galleries Unphased.

Rows of fingertip dimples below rims (Imp.G.iv and v) are found in Phases 9, 6, 5, 2, and Galleries Unphased.

Other types of impressions, such as dots (Imp.B – Roundhouse and Cellular Multiple-phase contexts, NE Extension Middle), dots with lines (Imp.C – Phase 10 and Roundhouse and Cellular Multiple-phase contexts), impressed semi-circles (Imp.D – Phases 10, 6, Cellular Multiple-phase contexts and Galleries Unphased) and impressed chevrons (Imp. E – Galleries Unphased) appear more infrequently.

The greatest variety of impressed motifs is found in Phase 10, the NE Extension phases and Galleries Unphased.

Other motifs

Motif Oth.B is present only in the Late Iron Age phases (4, 2, 1) while Oth.C is only present in the NE Extension Lower and in the Galleries Unphased, the latter in combination with App.A.ii. Oth.A types are present throughout all phases except the NE Extension phases and Phases 7, 3 and 0.

Table 6-8: Frequency and type of combined motifs by phase

	11	10	Round.	9	8	7	6	5	Cell.	4	3	2	1	0	LIA	NE Ext L	NE Ext M	NE Ext U	Galler.	
Applied/Channelled	2	1	1	2	1	2			1			1					1		3	*15*
Applied/Incised									1		1			1		1	3	1	1	*9*
Applied/Impressed																			1	*1*
Channelled/Incised		1																		*1*
Channelled/Impressed			1						4											*5*
Incised/Impressed		1		1											1	3	1		2	*9*
Applied/Applied		2	1	3	1	4	2	1	4			1		1					1	*21*
Channelled/Channelled								2											2	*4*
Incised/Incised				1				1	1		1					1	1		4	*10*
Impressed/Impressed			1						1											*2*
	2	*5*	*4*	*7*	*2*	*6*	*2*	*4*	*12*		*2*	*2*		*2*	*1*	*5*	*6*	*1*	*14*	

The most common combinations of motifs are applied with applied and applied with channelled decoration (Table 6-8). The least common are applied with impressed and channelled with incised. Combinations of motifs tend to be more common in the NE Extension Lower and Middle, the Cellular phases and in the Galleries Unphased. There does not appear to be any strong patterning within the site's sequence except that there appears to be a stronger association of applied and incised, incised and impressed, and incised and incised decoration with the NE Extension Lower and Middle phases. The occurrence of applied and channelled decoration together also appears to be associated with the Roundhouse and earlier Cellular phases.

6.8.2 By Form

Form 1 has channelled motifs Cha.J and Cha.F.ii; impressed motifs comprise one example each of Imp.A.ii, Imp.H.iii, Imp.H.v.E, Imp.H.iii.E, Imp.H.ii.I, Imp.H.ii.C, two examples each of Imp.A.ii and Imp.G.iv, three examples each of Imp.D and Imp.E, and four examples each of Imp.H.ii and Imp.H.iii.K. The most common motifs are Imp.H.ii and Imp.H.iii.K. A number of combinations of motifs are also present, with one example each: Imp.H.iii.R with Inc.G; Inc.E.i with Inc.C.iii; Inc.B.iii with Inc.A.iii; Imp.H.iii with Inc.C.iii; Imp.A.i with Inc.L.ii and Inc.E.i; and Inc.O.iii with Inc.E.i. The majority of the motifs are found on the rim exterior (39 individual motifs), with two examples of incised decoration on the body exterior, and one incised and one impressed motif found on the shoulder.

Form 2 has only motifs Imp.H.v.E (three examples) and Imp.H.v.I (two examples) present are found on the rim exterior.

Form 3 has only a single example each of Imp.H.ii and Imp.H.ii.C present, which are found on the rim exterior.

Form 4 has an example of App.A.ii on the body exterior, an example each of incised motifs found on the rim exterior (Inc.R) and in the neck angle (Inc.R). Impressed motifs are found on the rim exterior (two examples of Imp.G.iv) and more often in the neck angle (one example of Imp.G.iv, two examples each of Imp.E and Imp.H.ii and three examples of Imp.H.ii.C).

Form 5 has only three examples of motif Imp.G.iv present and are all found on the rim exterior.

Form 7 has incised motifs in the neck angle (two examples of Inc.O.i and one of Inc.M.ix) and on the shoulder (Inc.C.ii) in almost equal amounts. The impressed motifs are found only in the neck angle (one example of Imp.H.ii and Imp.H.ii.C, and six examples of Imp.H.ii.E).

Form 8 has just one example of motifs Inc.E.i, App.A.i, App.P and Imp.F. The incised and applied motifs are found in the neck angle. The impressed motif is found on the rim top.

Form 9 has a wide variety of motifs present. The majority of the incised motifs are found in the neck angle with a slightly smaller proportion on the shoulder and one example each on the body exterior and body interior. The majority of the impressed motifs are found on the shoulder with a slightly smaller proportion in the neck angle, with an example on the body exterior. The majority of the channelled motifs are found on the rim interior, with a slightly smaller proportion on the shoulder and between the shoulder and neck, and small numbers in the neck angle, on the rim exterior and on the body exterior. The applied motifs are found primarily in the neck angle with small numbers found on the shoulder, body exterior and between the shoulder and neck. The other motif is found between the shoulder and neck.

Form 10 has motifs App.A.i, App.B.i, App.H, App.I, Cha.I, Inc.A.iii, Inc.C.i, and Inc.E.i. The channelled motif Cha.I is found on the rim interior. The applied motifs (one example each of App.B.i, App.A.i, App.H, App.I) are found only in the neck angle. The incised decoration is found in the neck angle (one example of Inc.E.i) and on the shoulder (one example each of Inc.A.iii and Inc.C.i),

Form 12 has only motifs App.A.ii and App.A.iv present. The latter is present as a double cordon, placed in both the neck angle and on the shoulder. The former is a single example found on the shoulder.

Form 13 has only motif App.A.ii, found in the neck angle.

Form 15 has one occurrence of motif Imp.F, found on the rim top.

Form 16 has motifs App.A.i, App.A.ii, App.B.i, App.B.iii, App.B.iv, App.C.i, App.D.i, App.P, Imp.F and Oth.B present. The other motifs (6 examples of Oth.B) are found on the rim top, as are the impressed motifs (6 examples of Imp.F). The applied motifs are found primarily on the neck angle (29 examples) with the remainder found on the body exterior (one example of App.P) and rim exterior (one example of App.B.i).

Form 17 has motifs App.A.i (5 examples), App.A.ii (3 examples), App.C.i (one example), App.E.i (one example), App.F (three examples), and App.P (two examples) present and are found only in the neck angle.

Form 21 has one example each of Cha.K, Cha.C.i, Inc.E.i and App.A.ii. All of the motifs are found on the shoulder.

Form 22 has one example each of App.B.i, App.C.i, App.P, 6 examples of App.A.i, 2 examples of App.A.ii, 3 examples of App.A.iii, one example each of Cha.D.ii, Cha.D.v, Cha.D.i, Cha.D.iii, two examples of Inc.N.iii, one example each of Inc.A.i, Inc.D.ii, Inc.E.i, Inc.F.iii, and one example each of Imp.H.iv.E, Imp.A.i. Combined motifs comprise motifs App.A.i with Cha.D.iii, Cha.D.ii with Imp.H.iv.E and App.C.i with Inc.A.i and Imp.H.i.R. All of the motifs are found on the shoulder except two examples of channelled decoration found between the shoulder and neck (Cha.D.v, Cha.D.i) and two examples of incised decoration found in the neck angle (Inc.A.i, Inc.D.ii).

Base Form 23 had only channelled motif (Cha.G) found on the base interior. Form 24 had primarily impressed decoration with a small percentage of channelled decoration. The motifs used were limited to one example each of Cha.G, Imp.G.i and Imp.G.iii. A further four examples of motif Imp.G.i and three examples of motif Imp.G.ii were found on bases whose form could not be determined (Form 27).

Form 28 has one sherd with motif Cha.I on the lug interior.

Forms 6, 11, 14, 25 and 26 are not decorated.

Figure 6-17: Number of different motifs present by phase

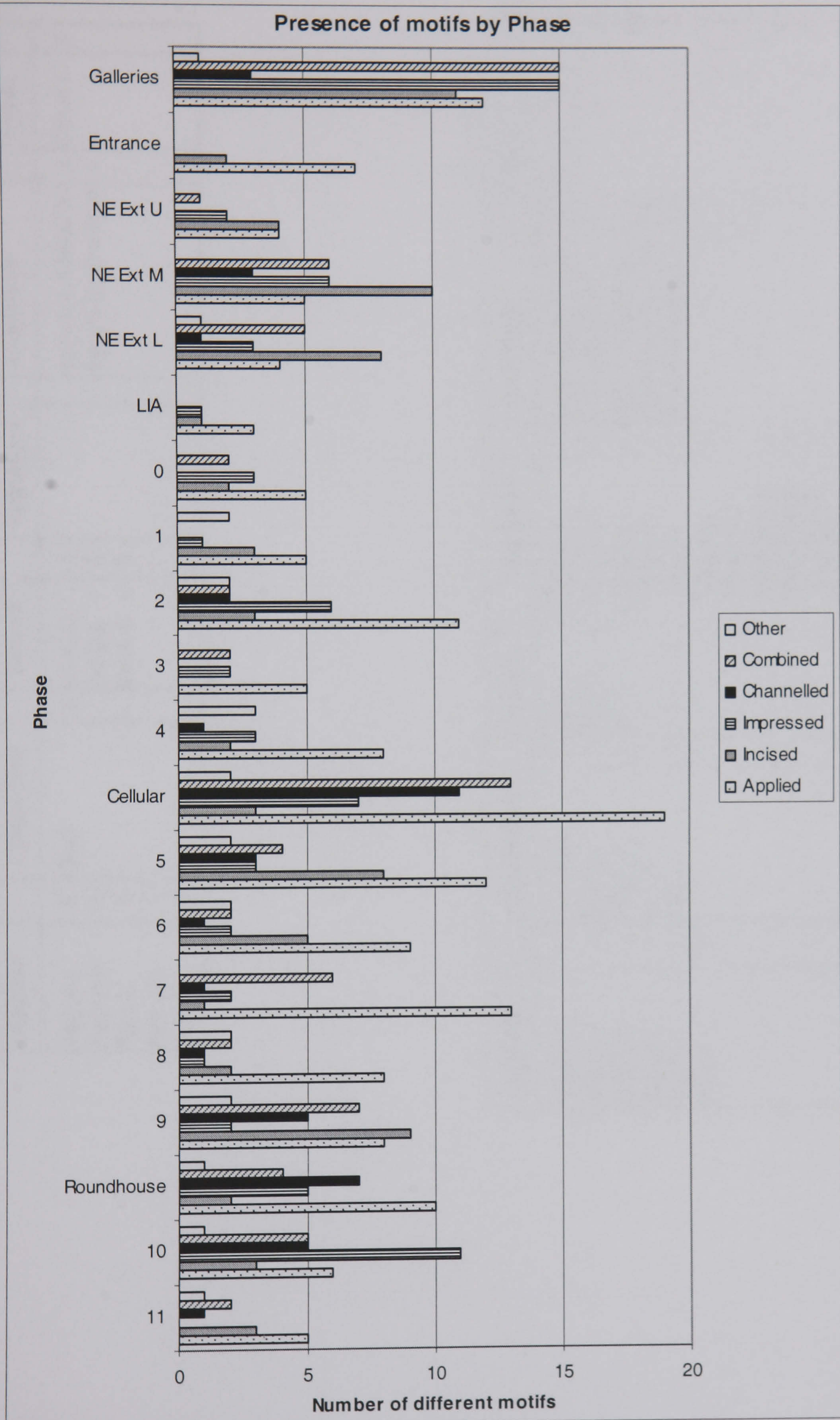


Table 6-9: Phase 11 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	6	Cha.J	1	Inc.C.ii	1			App.A.ii/Cha.C.iii	1	Oth.A.i	1
App.A.ii	3			Inc.E.ii	1			App.A.ii/Cha.D.iv	1		
App.I.i	1			Inc.K.ii	1						
App.J.iii	1										
App.P	4										

Table 6-10: Phase 10 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	15	Cha.A.iii	1	Inc.E.i	4	Imp.A.i	1	Imp.H.iii.R/Inc.G	1	Oth.A.i	1
App.A.ii	4	Cha.D.i	1	Inc.P	2	Imp.A.ii	2	Cha.I/Inc.M.vi	1		
App.B.i	1	Cha.F.ii	1	Inc.S	1	Imp.A.v	2	App.A.i/App.M	1		
App.E.i	1	Cha.H	1			Imp.C.ii	1	App.A.i/Cha.C.iii	1		
App.J.i	1	Cha.I	2			Imp.D	1	App.B.i/App.M	1		
App.P	2					Imp.H.i	1				
						Imp.H.ii	1				
						Imp.H.ii.E	1				
						Imp.H.iii.K	4				
						Imp.H.v.E	3				
						Imp.I.v.I	2				

Table 6-11: Roundhouse Multiple Phase decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	37	Cha.C.iii	1	Inc.E.i	2	Imp.A.i	1	App.A.i/Cha.D.v	1	Oth.A.i	1
App.A.ii	8	Cha.D.i	1	Inc.K.i or	1	Imp.H.i.C	1	Imp.C.i/Imp.B.i	1		
App.A.iii	2	Cha.D.ii	2	Inc.M.ii		Imp.H.ii	1	App.A.i/App.O	1		
App.B.i	5	Cha.D.vi	1			Imp.H.ii.E	1	Cha.D.ii/Imp.H.iv.E	1		
App.C.i	1	Cha.F.i	1			Imp.H.iii	1				
App.D.i	2	Cha.G	1								
App.E.iii	1	Cha.I	4								
App.H	1										
App.I.i	1										
App.P	8										

Table 6-12: Phase 9 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	48	Cha.B.iv	1	Inc.A.iv	1	Imp.G.ii	1	App.A.i/Cha.C.iii	1	Oth.A.i	5
App.A.ii	9	Cha.C.iv	1	Inc.C.i	1	Imp.G.iv	1	Inc.E.i/Inc.G or Inc.J.iii	1	Oth.A.ii	1
App.C.i	6	Cha.D.i	2	Inc.C.iv	1			App.A.i/App.M	1		
App.C.iii	1	Cha.D.iv	1	Inc.E.i	1			App.A.i/Cha.B.iii	1		
App.E.i	2	Cha.I	1	Inc.L.i	1			App.A.ii/App.M	2		
App.F	6			Inc.N.i	1			App.F/App.A.i	1		
App.J.i	1			Inc.N.iii	2			Imp.H.iii/Inc.B.iii /Inc.C.iii	1		
App.P	7			Inc.O.iii	1						
				Inc.P	2						

Table 6-13: Phase 8 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	25	Cha.D.i	1	Inc.A.iv	1	Imp.G.i	1	App.A.ii/Cha.C.iii	1	Oth.A.i	2
App.A.ii	2			Inc.O.i	1			App.A.i/App.M	2	Oth.A.ii	1
App.B.i	4										
App.C.i	1										
App.F	5										
App.I.i	1										
App.N	1										
App.P	4										

Table 6-14: Phase 7 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	47	Cha.B.iv	1	Inc.A.iv	1	Imp.A.i	1	App.A.i/App.M	1		
App.A.ii	10					Imp.G.i	1	App.A.i/Cha.C.iii	1		
App.A.iii	1							App.A.ii/App.M	1		
App.B.i	7							App.A.ii/Cha.D.vi	1		
App.B.iii	3							App.C.i/App.M	1		
App.C.i	7							App.G/App.M	1		
App.D.i	1										
App.E.iii	1										
App.F	1										
App.J.ii	3										
App.M	1										
App.N	3										
App.P	13										

Table 6-15: Phase 6 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	36	Cha.I	2	Inc.A.iv	1	Imp.D	1	App.A.i/App.M	1	Oth.A.i	1
App.A.ii	7			Inc.E.i	1	Imp.G.iv	1	App.A.i/App.O	1	Oth.A.ii	1
App.B.i	3			Inc.E.i	1						
App.C.i	3			Inc.J.iii	1						
App.C.iii	1			Inc.P	1						
App.E.i	2										
App.F	1										
App.N	1										
App.P	7										

Table 6-16: Phase 5 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	38	Cha.C.iii	1	Inc.B.iv	1	Imp.A.i	2	Cha.C.ii/Cha.I	1	Oth.A.i	5
App.A.ii	9	Cha.I	5	Inc.G	1	Imp.A.iii	1	Cha.C.i/Cha.C.ii	1	Oth.A.ii	4
App.A.iii	1	Cha.K	1	Inc.L.ii	1	Imp.G.iv	1	App.A.i/App.M	2		
App.B.i	14			Inc.N.ii	1			Inc.O.iv/Inc.A.iv	1		
App.B.iii	1			Inc.N.iii	1						
App.C.i	7			Inc.P	1						
App.D.i	3			Inc.S	1						
App.H	2			Inc.T or Inc.L.ii	1						
App.I.i	1										
App.K.ii	1										
App.M	1										
App.P	4										

Table 6-17: Cellular Multiple Phase decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	126	Cha.C.iii	2	Inc.B.iv	1	Imp.A.i	1	Inc.E.i/Inc.C.iii	1	Oth.A.i	7
App.A.ii	22	Cha.C.iv	1	Inc.E.i	2	Imp.B.ii	1	App.A.i/Cha.D.v	1	Oth.A.ii	3
App.A.iii	3	Cha.D.i	4	Inc.K.i or	1	Imp.B.iv	1	Imp.C.i/Imp.B.i	1		
App.B.i	11	Cha.D.ii	2	Inc.M.ii		Imp.H.i.C	1	Imp.D/Cha.J	1		
App.B.ii	1	Cha.D.v	1			Imp.H.ii	1	Imp.H.ii.E/Cha.E.i	1		
App.B.iii	2	Cha.D.vi	1			Imp.H.ii.E	1	Cha.D.ii/Imp.H.iv.E	1		
App.C.i	11	Cha.E.ii	1			Imp.H.iii	1	App.A.i/App.M	4		
App.D.i	4	Cha.F.i	1					App.A.i/App.O	1		
App.E.i	1	Cha.G	1					App.C.i/App.M	1		
App.E.iii	1	Cha.G	1					App.I.i/App.N	1		
App.F	5	Cha.I	5					App.P/Inc.T	1		
App.G	1							Imp.A.i/Cha.A.iii	1		
App.H	1							Imp.A.i/Cha.C.iii	1		
App.I	1										
App.I.i	1										
App.K.ii	1										
App.M	2										
App.N	1										
App.P	27										

Table 6-18: Phase 4 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	14	Cha.I	1	Inc.F.iii	1	Imp.A.v	1			Oth.A.i	2
App.A.ii	2			Inc.Q.i	1	Imp.F	1			Oth.A.ii	1
App.A.iii	1					Imp.H.iii.E	1			Oth.B	1
App.B.i	4										
App.B.iii	1										
App.C.i	3										
App.F	1										
App.P	5										

Table 6-19: Phase 3 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	1					Imp.G.ii	1	Inc.B.iii/Inc.A.iii	1		
App.B.i	4					Imp.H.ii.E	1	App.C.i/Inc.A.i/Imp.H.i.R	1		
App.B.iv	1										
App.C.i	1										
App.P	1										

Table 6-20: Phase 2 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	6	Cha.I	1	Inc.A.iii	1	Imp.F	1	App.A.i/App.O	1	Oth.A.i	2
App.A.ii	2	Cha.E.ii	1	Inc.E.i	1	Imp.G.i	1	App.B.iii/Cha.D.i	1	Oth.B	5
App.B.i	12			Inc.M.viii	1	Imp.G.iv	1				
App.B.ii	1					Imp.H.i	1				
App.B.iii	2					Imp.H.ii.C	1				
App.B.iv	1					Imp.H.v.E	1				
App.C.i	1										
App.D.iii	1										
App.L	1										
App.N	2										
App.P	6										

Table 6-21: Phase 1 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	4			Inc.A.iv	1	Imp.F	1			Oth.A.ii	1
App.B.i	1			Inc.B.iv	1					Oth.B	1
App.B.iii	1			Inc.E.i	1						
App.N	1										
App.P	3										

Table 6-22: Phase 0 decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	3			Inc.A.iv	1	Imp.F	2	App.A.i/App.M	1		
App.A.iii	1			Inc.P	1	Imp.H.i	2	Inc.E.i/App.N	1		
App.C.i	1					Imp.H.ii	1				
App.K.i	1										
App.P	4										

Table 6-23: Late Iron Age Multiple-Phase decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	2					Imp.A.i	1	Imp.H.vi/Inc.I.ii	1		
App.C.i	1										
App.P	1										

Table 6-24: NE Extension Lower decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	3	Cha.D.iii	1	Inc.E.i	1	Imp.E.i	1	Imp.H.iii/Inc.C.iii	1	Oth.C	1
App.A.ii	1			Inc.C.iii	2	Imp.H.ii.C	2	Inc.D.i/Inc.M.ix/App.P	1		
App.H	1			Inc.G	1	Imp.H.iv.E	1	Imp.H.iii.I/Inc.C.iii	1		
App.P	1			Inc.I.i	1			Imp.H.ii/Inc.C.iii	1		
				Inc.M.iii	1			Inc.K.iii/Inc.N.ii	1		
				Inc.O.i	2						
				Inc.P	1						
				Inc.S	1						

Table 6-25: NE Extension Middle decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	9	Cha.C.iii	2	Inc.E.i	3	Imp.B.iii	1	Inc.M.vii/Inc.Q.ii/App.P	1		
App.A.iii	4	Cha.C.iv	1	Inc.M.v	1	Imp.G.i	1	Imp.B.i/Inc.N.iv	1		
App.B.i	1	Cha.D.i	1	Inc.O.iii	1	Imp.G.ii	1	App.A.i/Cha.D.iii	1		
App.B.iii	1			Inc.B.iv	1	Imp.H.ii	2	App.A.i/Inc.A.iii	1		
App.P	2			Inc.C.iv	2	Imp.H.ii.I	1	App.E.i/Inc.E.i/Inc.N.ii	1		
				Inc.G	1	Imp.I.ii.E	1	Inc.J.ii/Inc.C.iv	1		
				Inc.I.ii	1						
				Inc.J.ii	1						
				Inc.M.iv	1						
				Inc.O.iv	1						

Table 6-26: NE Extension Upper decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	3			Inc.G or	1	Imp.A.i	1	App.P/Inc.A	1		
App.A.iii	1			Inc.M.ii		Imp.H.ii	1				
App.C.iii	1			Inc.J.i	1						
App.P	1			Inc.O.i	1						
				Inc.P	1						

Table 6-27: Entrance Unphased decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	9			Inc.B.iv	1						
App.A.ii	1			Inc.N.ii or	1						
App.C.i	1			Inc.M.vii							
App.C.ii	1										
App.E.iii	1										
App.N	1										
App.P	5										

Table 6-28: Galleries Unphased decorative motifs

Applied		Channelled		Incised		Impressed		Combined		Other	
App.A.i	34	Cha.D.i	2	Inc.B.iv	1	Imp.A.i	1	Imp.A.i/Inc.L.ii/Inc.E.i	1	Oth.A.i	4
App.A.ii	9	Cha.E.i	1	Inc.C.iv	1	Imp.A.iv	1	Inc.O.iii/Inc.E.i	1		
App.A.iv	1	Cha.I	3	Inc.E.i	8	Imp.A.v	4	App.A.i/Cha.B.iii	1		
App.B.i	8			Inc.D.i	1	Imp.D	2	App.A.ii/Oth.C	1		
App.B.ii	6			Inc.D.ii	1	Imp.E	4	Cha.I/Cha.D.ii	1		
App.C.i	1			Inc.G	1	Imp.E.i	1	Cha.J/Cha.D.iv	1		
App.G	12			Inc.N.i	1	Imp.F	3	Inc.E.i/Inc.F.iii	1		
App.H	3			Inc.O.iv	2	Imp.G.i	1	App.A.i/Imp.F	1		
App.I.i	2			Inc.O.iii	2	Imp.G.iii	1	App.A.i/App.M	2		
App.K.iii	1			Inc.P	1	Imp.G.iv	4	App.A.i/Cha.D.i	1		
App.N	1			Inc.R	3	Imp.H.ii	3	App.A.i/Cha.E.i	1		
App.P	1					Imp.H.ii.C	3	App.L/Inc.A.iv	1		
	17					Imp.H.ii.E	5	Imp.A.i/Inc.F.i	1		
						Imp.H.iii	2	Inc.E.i/Inc.F.ii	1		
						Imp.H.v.E	1	Inc.H/Inc.N.i	1		

Table 6-29: Phase 11 decorative motifs

Form	29		22		9		7	
Applied	App.A.i App.A.ii App.I.i App.J.iii App.P	6 2 1 1 3	App.P	1	App.A.ii	1		
Channelled					Cha.J	1		
Incised	Inc.K.ii	1			Inc.E.ii	1	Inc.C.ii	1
Impressed								
Combined	App.A.ii/Cha.D.iv	1			App.A.ii/Cha.C.iii	1		
Other	Oth.A.i	1						

Table 6-30: Phase 10 decorative motifs

Form	1		2		9		13		16		29	
Applied					App.A.i App.A.ii	6 1	App.A.ii	1			App.A.i App.A.ii App.B.i App.E.i App.J.i App.P	9 2 1 1 1 2
Channelled	Cha.F.ii	1			Cha.A.iii Cha.D.i Cha.H Cha.I	1 1 1 2						
Incised											Inc.E.i Inc.P Inc.S	4 2 1
Impressed	Imp.A.ii Imp.D Imp.H.ii Imp.H.iii.K	2 1 1 4	Imp.H.v.E Imp.H.v.I	3 2	Imp.A.v Imp.C.ii	2 1					Imp.A.i Imp.H.i Imp.H.ii.E	1 1 1
Combined	Imp.H.iii.R/Inc.G	1			Cha.I/Inc.M.vi	1					App.A.i/App.M App.A.i/Cha.C.iii App.B.i/App.M	1 1 1
Other									Oth.B	1	Oth.A.i	1

Table 6-31: Roundhouse Multiple Phase decorative motifs

Form	Applied		Channelled		Incised		Impressed		Combined		Other	
1							Imp.H.ii Imp.H.iii	1 1				
8	App.P	1										
9	App.A.i App.A.ii App.D.i App.P	10 2 1 1	Cha.C.iii Cha.D.i Cha.D.ii Cha.D.vi Cha.I	1 1 2 1 3					App.A.i/Cha.D.v Imp.C.i/Imp.B.i	1 1		
10	App.B.i App.H	1 1			Inc.E.i	1						
16	App.D.i App.P	1 1										
17	App.A.i	1										

Form	22		24		28		29	
Applied	App.A.i App.A.ii App.A.iii	2 1 1					App.A.i App.A.ii App.A.iii App.B.i App.C.i App.E.iii App.I.i App.P	24 5 1 4 1 1 1 5
Channelled			Cha.G	1	Cha.I	1	Cha.F.i	1
Incised							Inc.E.i Inc.K.i or Inc.M.ii	1 1
Impressed							Imp.A.i Imp.H.i.C Imp.H.ii.E	1 1 1
Combined	Cha.D.ii/Imp.H.iv.E	1					App.A.i/App.O	1
Other							Oth.A.i	1

Table 6-32: Phase 9 decorative motifs

Form	1	
Applied		
Channelled		
Incised	Inc.E.i Inc.N.iii Inc.O.iii	1 1 1
Impressed	Imp.G.iv	1
Combined		
Other		

29		27		22		17		10		9		Form
App.A.i App.A.ii App.C.i App.C.iii App.E.i App.F App.J.i App.P	40 9 5 1 2 2 1 7					App.F	1	App.A.i	1	App.A.i App.C.i App.F	7 1 3	**Applied**
Cha.B.iv	1			Cha.D.iv	1					Cha.C.iv Cha.D.i Cha.I	1 2 1	**Channelled**
Inc.A.iv Inc.C.iv Inc.N.i Inc.P	1 1 1 1			Inc.N.iii	1			Inc.C.i	1	Inc.L.i Inc.P	1 1	**Incised**
		Imp.G.ii	1									**Impressed**
App.A.i/App.M App.A.i/Cha.B.iii App.A.ii/App.M App.F/App.A.i Imp.H.iii/Inc.B.iii/Inc.C.iii	1 1 2 1 1									App.A.i/Cha.C.iii Inc.E.i/Inc.G or Inc.J.iii	1 1	**Combined**
Oth.A.i Oth.A.ii	5 1											**Other**

Table 6-33: Phase 8 decorative motifs

Form	Applied		Channelled		Incised		Impressed		Combined		Other	
1					Inc.O.i	1						
9	App.A.i App.B.i App.F	6 1 4							App.A.ii/Cha.C.iii	1		
17	App.F	1										
22			Cha.D.i	1								
24							Imp.G.i	1				
29	App.A.i App.A.ii App.B.i App.C.i App.I.i App.N App.P	19 2 3 1 1 1 4			Inc.A.iv	1			App.A.i/App.M	2	Oth.A.i Oth.A.ii	2 1

Table 6-34: Phase 7 decorative motifs

Form	Applied		Channelled		Incised		Impressed		Combined		Other	
9	App.A.i App.A.ii App.B.i App.C.i App.P	8 1 2 2 1	Cha.B.iv	1								
16	App.A.i	1										
17	App.A.ii App.C.i App.F	1 1 1										
22	App.A.i	1					Imp.A.i	1				
27							Imp.G.i	1				
29	App.A.i App.A.ii App.A.iii App.B.i App.B.iii App.C.i App.D.i App.E.iii App.J.ii App.M App.N App.P	36 8 1 5 3 4 1 1 3 1 3 12			Inc.A.iv	1			App.A.i/App.M App.A.i/Cha.C.iii App.A.ii/App.M App.A.ii/Cha.D.vi App.C.i/App.M App.G/App.M	1 1 1 1 1 1		
30	App.A.i	1										

Table 6-35: Phase 6 decorative motifs

Form	1		8		9		17		22		23		29	
Applied			App.A.i	1	App.A.i App.P	6 2	App.A.ii	1					App.A.i App.A.ii App.B.i App.C.i App.C.iii App.E.i App.F App.N App.P	22 5 3 3 1 2 1 1 5
Channelled					Cha.I	2								
Incised	Inc.J.iii	1							Inc.E.i	1	Inc.E.i	1	Inc.A.iv Inc.P	1 1
Impressed	Imp.G.iv	1			Imp.D	1								
Combined													App.A.i/App.M App.A.i/App.O	1 1
Other													Oth.A.i Oth.A.ii	1 1

Table 6-36: Phase 5 decorative motifs

Form	Applied		Channelled		Incised		Impressed		Combined		Other	
1					Inc.T or Inc.L.ii	1	Imp.A.ii i	1				
5							Imp.G.iv	1				
9	App.A.i App.C.i App.D.i App.P	6 3 1 1	Cha.C.iii Cha.I	1 5	Inc.N.ii	1			Cha.C.ii/Cha.I	1		
16	App.A.i App.A.ii App.B.i App.C.i	1 1 3 2										
17	App.A.i	3										
21	App.A.ii	1	Cha.K	1					Cha.C.i/Cha.C.ii	1		

Form	Applied	Channelled	Incised	Impressed	Combined	Other
22	App.A.i 1 App.B.i 1		Inc.N.iii 1			
29	App.A.i 27 App.A.ii 7 App.A.iii 1 App.B.i 10 App.B.iii 1 App.C.i 2 App.D.i 2 App.H 2 App.I.i 1 App.K.ii 1 App.M 1 App.P 3		Inc.B.iv 1 Inc.G 1 Inc.L.ii 1 Inc.P 1 Inc.S 1	Imp.A.i 2	App.A.i/App.M 2 Inc.O.iv/Inc.A.iv 1	Oth.A.i 5 Oth.A.ii 4

Table 6-37: Cellular Multiple Phase decorative motifs

Form	Applied	Channelled	Incised	Impressed	Combined	Other
1				Imp.H.ii 1 Imp.H.iii 1	Inc.E.i/Inc.C.iii 1	
4	App.A.i i 1					
8	App.P 1					

Form	9		10		16		17		22		23		24	
Applied	App.A.i App.A.ii App.B.i App.C.i App.D.i App.F App.M App.P	27 6 2 3 1 3 1 4	App.B.i App.H	1 1	App.A.i App.D.i App.P	1 1 1	App.A.i App.A.ii App.E.i App.P	2 1 1 1	App.A.i App.A.ii App.A.iii	3 1 2				
Channelled	Cha.C.iii Cha.D.i Cha.D.ii Cha.D.v Cha.D.vi Cha.E.ii Cha.J	2 2 2 1 1 1 4									Cha.G	1	Cha.G	1
Incised			Inc.E.i	1										
Impressed	Imp.B.iv	1												
Combined	App.A.i/Cha.D.v Imp.C.i/Imp.B.i Imp.D/Cha.J Imp.H.ii.E/Cha.E.i	1 1 1 1							Cha.D.ii/Imp.H.iv.E	1				
Other														

29				28		Form
App.E.iii App.F App.G App.I App.L.i App.K.ii App.M App.N App.P	1 2 1 1 1 1 1 1 20	App.A.i App.A.ii App.A.iii App.B.i App.B.ii App.B.iii App.C.i App.D.i	93 13 1 8 1 2 8 2			**Applied**
		Cha.C.iv Cha.D.i Cha.F.i	1 2 1	Cha.I	1	**Channelled**
		Inc.B.iv Inc.E.i Inc.K.i or Inc.M.ii	1 1 1			**Incised**
		Imp.A.i Imp.B.ii Imp.H.i.C Imp.H.ii.E	1 1 1 1			**Impressed**
App.A.i/App.M App.A.i/App.O App.C.i/App.M App.L.i/App.N	1 1 1 1	App.P/Inc.T Imp.A.i/Cha.A.iii Imp.A.i/Cha.C.iii	4 1 1			Combined
		Oth.A.i Oth.A.ii	7 3			Other

Table 6-38: Phase 4 decorative motifs

Form	Applied		Channelled		Incised		Impressed		Combined		Other	
1					Inc.Q.i	1	Imp.H.iii.E	1				
8							Imp.F	1				
9	App.A.i App.B.i App.C.i App.P	3 1 1 1	Cha.I	1								
16	App.A.i App.B.i App.B.iii	3 1 1									Oth.B	1
22					Inc.F.iii	1						
29	App.A.i App.A.ii App.A.iii App.B.i App.C.i App.F App.P	8 2 1 2 2 1 4					Imp.A.v	1			Oth.A.i Oth.A.ii	2 1

Table 6-39: Phase 3 decorative motifs

Form	1		7		16		22		27		29	
Applied					App.B.i App.B.iv App.P	2 1 1					App.A.i App.B.i App.C.i	1 2 1
Channelled												
Incised												
Impressed			Imp.H.ii.E	1					Imp.G.ii	1		
Combined	Inc.B.iii/Inc.A.iii	1					App.C.i/Inc.A.i /Imp.H.i.R	1				
Other												

Table 6-40: Phase 2 decorative motifs

Form	Applied		Channelled		Incised		Impressed		Combined		Other	
1							Imp.H.ii.C	1				
4							Imp.G.iv	1				
9	App.A.i App.B.ii	1 1			Inc.E.i	1						
10			Cha.I	1	Inc.A.iii	1						
16	App.A.i App.B.i App.P	1 4 1					Imp.F	1			Oth.B	3
17	App.P	1										
18-20											Oth.B	2

29		27		Form
App.A.i App.A.ii App.B.i App.B.iii App.B.iv App.C.i App.D.iii App.L App.N App.P	4 2 8 2 1 1 1 1 2 4			**Applied**
Cha.E.ii	1			**Channelled**
Inc.M.viii	1			**Incised**
Imp.H.i Imp.H.v.E	1 1	Imp.G.i	1	**Impressed**
App.A.i/App.O App.B.iii/Cha.D.i	1 1			**Combined**
Oth.A.i	2			**Other**

Table 6-41: Phase 1 decorative motifs

29		16		9		Form
App.A.i App.B.i App.N App.P	3 1 1 3	App.B.iii	1	App.A.i	1	**Applied**
						Channelled
Inc.A.iv Inc.B.iv Inc.E.i	1 1 1					**Incised**
		Imp.F	1			**Impressed**
						Combined
Oth.A.ii	1	Oth.B	1			**Other**

Table 6-42: Phase 0 decorative motifs

Form	29		16	
Applied	App.A.i App.A.iii App.C.i App.K.i App.P	3 1 1 1 4		
Channelled				
Incised	Inc.A.iv Inc.P	1 1		
Impressed	Imp.H.i Imp.H.ii	2 1	Imp.F	2
Combined	App.A.i/App.M Inc.E.i/App.N	1 1		
Other				

Table 6-43: Late Iron Age Multiple-Phase decorative motifs

Form	29		9	
Applied	App.A.i App.C.i App.P	2 1 1		
Channelled				
Incised				
Impressed	Imp.A.i	1		
Combined			Imp.H.vi/Inc.I.ii	1
Other				

Table 6-44: NE Extension Lower decorative motifs

Form	1		4		7		9		29	
Applied									App.A.i App.A.ii App.H App.P	3 1 1 1
Channelled									Cha.D.iii	1
Incised					Inc.O.i	2	Inc.E.i	1	Inc.C.iii Inc.G Inc.I.i Inc.M.iiiInc.P Inc.S	2 1 1 1 1 1
Impressed	Imp.E.i	1	Imp.H.ii.C	1	Imp.H.ii.C	1			Imp.H.iv.E	1
Combined	Imp.H.iii/Inc.C.iii	1			Inc.D.i/Inc.M.ix/ App.P	1	Imp.H.iii.I/Inc.C.iii	1	Imp.H.ii/Inc.C.iii Inc.K.iii/Inc.N.ii	1 1
Other									Oth.C	1

Table 6-45: NE Extension Middle decorative motifs

Form	Applied		Channelled		Incised		Impressed		Combined		Other	
1							Imp.H.ii Imp.H.ii.I	2 1				
7							Imp.H.ii.E	1				
9			Cha.C.iii Cha.C.iv Cha.D.i	2 1 1	Inc.E.i Inc.M.v Inc.O.iii	3 1 1			Inc.M.vii/Inc.Q.ii/ App.P Imp.B.i/Inc.N.iv	1 1		
22	App.A.iii	1							App.A.i/Cha.D.iii	1		
27							Imp.G.i Imp.G.ii	1 1				
	9 3 1 1 2				1 2 1 1 1 1 1		1		1 1 1			

Form	29
Applied	App.A.i App.A.iii App.B.i App.B.iii App.P
Channelled	
Incised	Inc.B.iv Inc.C.iv Inc.G Inc.I.ii Inc.J.ii Inc.M.iv Inc.O.iv
Impressed	Imp.B.iii
Combined	App.A.i/Inc.A.iii App.E.i/Inc.E.i/Inc.N.ii Inc.J.ii/Inc.C.iv
Other	

Table 6-46: NE Extension Upper decorative motifs

Form	3		9		29	
Applied					App.A.i App.A.iii App.C.iii App.P	3 1 1 1
Channelled						
Incised			Inc.O.i	1	Inc.G or Inc.M.ii Inc.J.i Inc.P	1 1 1
Impressed	Imp.H.ii	1			Imp.A.i	1
Combined					App.P/Inc.A	1
Other						

Table 6-47: Galleries Unphased decorative motifs

Form	1		3		4		5		7		8	
Applied												
Channelled	Cha.J	1										
Incised					Inc.R	3					Inc.E.i	1
Impressed	Imp.D Imp.E Imp.H.v.E	2 2 1	Imp.H.ii.C	1	Imp.E Imp.G.iv Imp.H.ii Imp.H.ii.C	2 2 2 2	Imp.G.iv	2	Imp.H.ii Imp.H.ii.E	1 4		
Combined	Imp.A.i/Inc.L.ii /Inc.E.i Inc.O.iii/Inc.E.i	1 1										
Other												

Form	9		10		12		15		16		22		24		
Applied	App.A.i App.G App.P	5 1 1	App.I	1	App.A.ii App.A.iv	1 1			App.A.i App.B.i App.P	1 1 1	App.A.ii	1			
Channelled	Cha.D.i Cha.I	2 2													
Incised	Inc.D.i Inc.E.i Inc.O.iii	1 6 2									Inc.D.ii	1			
Impressed	Imp.E.i	1					Imp.F	1	Imp.F	2			Imp.G.iii	1	1
Combined	App.A.i/Cha.B.iii App.A.ii/Oth.C Cha.I/Cha.D.ii Cha.J/Cha.D.iv Inc.E.i/Inc.F.iii	1 1 1 1 1							App.A.i/Imp.F	1					
Other															

Form	27	29			
Applied		App.A.i App.A.ii App.B.i App.B.ii App.C.i	28 7 6 1 1	App.G App.H App.I.i App.K.iii App.N App.P	1 3 1 1 1 1 15
Channelled				Cha.E.i	1
Incised		Inc.B.iv Inc.C.iv Inc.E.i	1 1 1	Inc.G Inc.N.i Inc.O.iv Inc.P	1 1 2 1
Impressed	Imp.G.i			Imp.A.i Imp.A.iv Imp.A.v Imp.H.ii.E Imp.H.iii	1 1 4 1 2
Combined				App.A.i/App.M App.A.i/Cha.D.i App.A.i/Cha.E.i App.L/Inc.A.iv Imp.A.i/Inc.F.i Inc.E.i/Inc.F.ii Inc.H/Inc.N.i	2 1 1 1 1 1 1
Other				Oth.A.i	4

Table 6-48: Entrance Unphased decorative motifs

Form	9		29	
Applied	App.A.i App.C.i App.P	3 1 1	App.A.i App.A.ii App.C.ii App.E.iii App.N App.P	6 1 1 1 1 4
Channelled				
Incised			Inc.B.iv Inc.N.ii or Inc.M.vii	1 1
Impressed				
Combined				
Other				

6.9 *Surface deposits*

6.9.1 By Phase

The varying proportions of surface deposits between phases may indicate functional differences between the assemblages (Fig. 6-18). However, there are reasons why surface deposit may not be a reliable indicator of use of the vessel. For example, heavy abrasion may remove any deposits adhering to the surfaces, and so sherds still showing deposits may only be a portion of the original total. Secondly, surface deposits may not relate to the actual use of the vessel but may be added during post-depositional processes, for example if sherds become mixed up with hearth material. The possibility of secondary usage of sherds or vessels should also not be discounted, as residues that become fixed during secondary usage will not relate to the vessels' primary functions.

Some broad patterns can be detected (Figure 6-18). The quantity of sherds by phase with surface deposits varies between just over 80% to a little over 30%. This a wide range of differences.

Phases with the highest proportions of vessels without any visible surface deposits are those within the Late Iron Age, the NE Extension Upper phase, the Entrance area and Phase 8. The phases with the most evidence of surface deposits are the Roundhouse phases, the NE Extension Middle phase and Phase 6. However, if this data is compared with the abrasion data, it is clear that the phases with the heaviest abrasion are the Roundhouse multiple, NE Extension Upper phase, Phase 0, Phase 1, and Late Iron Age multiple. So, the relative absence of surface deposits, at least within the Late Iron Age and NE Extension Upper phases may be attributable to heavier degrees of abrasion.

It would appear that surface deposits alone are not a useful indicator of vessel function when examined by phase.

6.9.2 By Form

Variations seen between forms regarding the presence and absence of surface deposits may illustrate something of function, or at least indicate whether it is likely that a particular form was commonly used for cooking or not (Fig. 6-19).

There is one form, 26, which exhibits no surface deposits at all. Form 2 strikingly has over 70% of its sherds without surface deposits. Form 10 has over 65% with no surface deposits. Form 12 has a little over half. Form 23 has over 60% and Form 28 has just over 90% without. This suggests that these forms were less intensively or frequently used for cooking purposes.

Forms 1, 5, 7, 13, 15 and 16 had surface deposits on more than 80% of their sherds by weight. This perhaps suggests that these forms were the most heavily used in cooking.

Figure 6-18: Surface deposits by phase

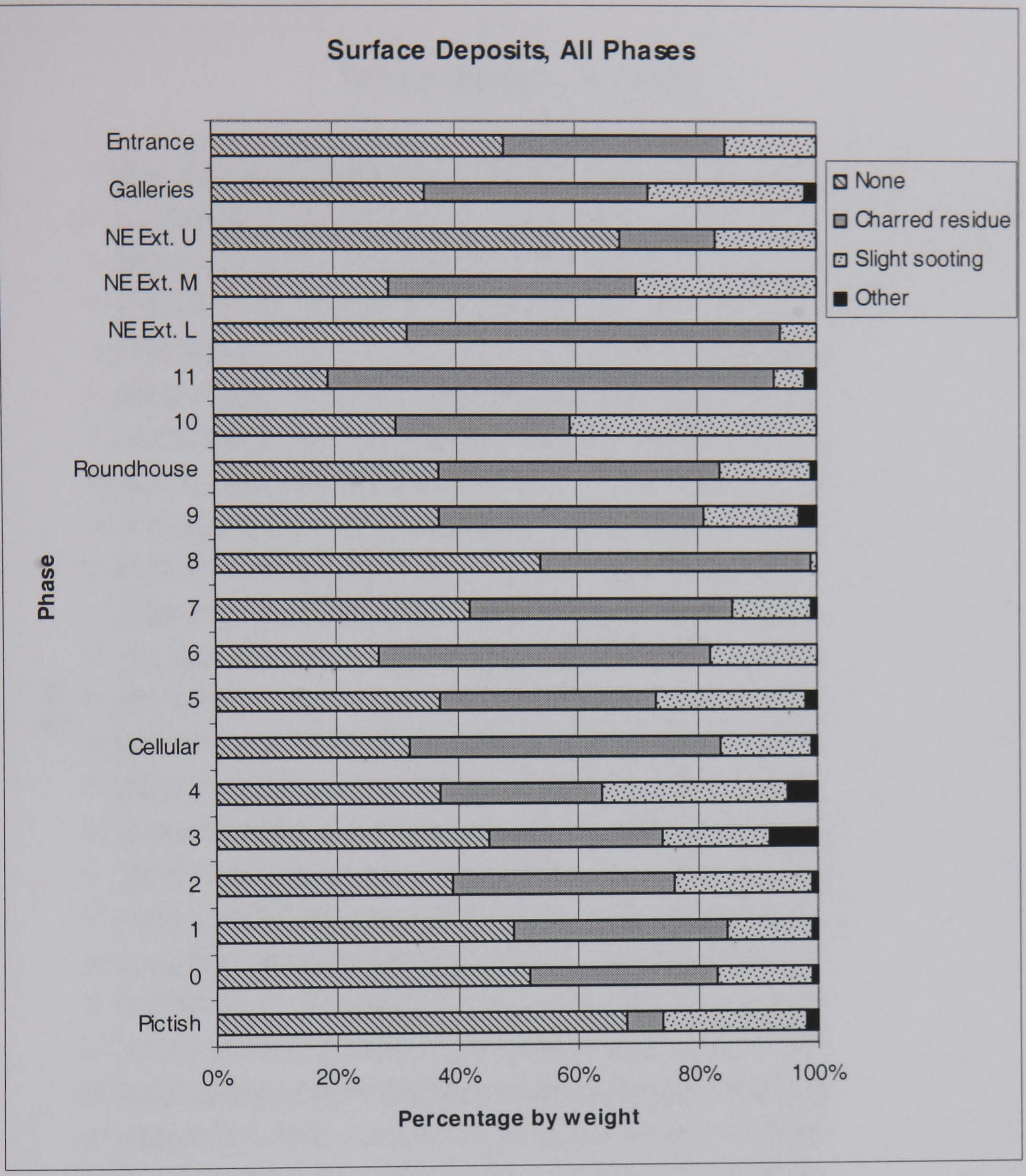
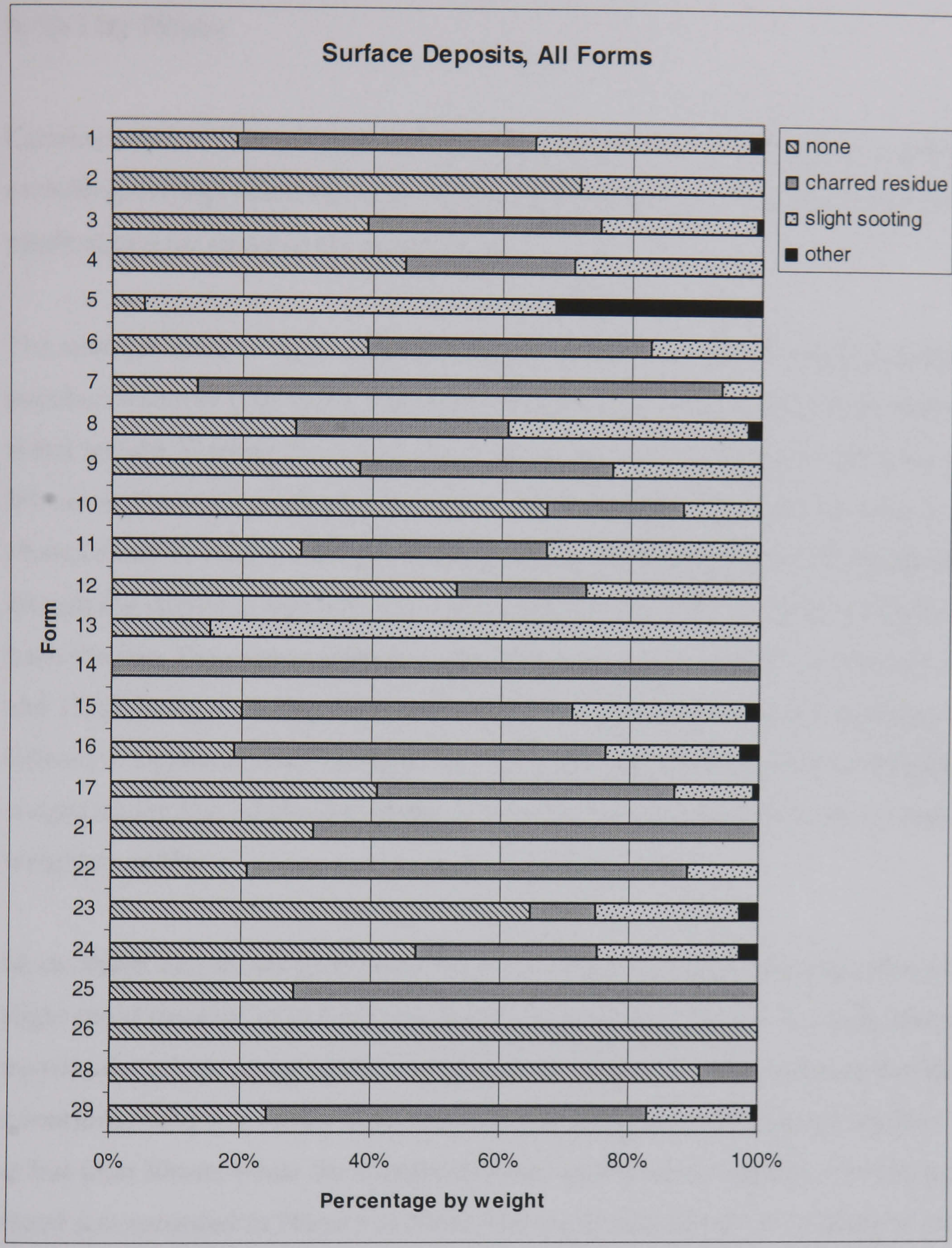


Figure 6-19: Surface deposits by form



6.10 Abrasion/sherd size/sherd weight

6.10.1 By Phase

Consideration will be given to the variable quantities of pottery between phases, including average sherd size and weight, with reference to formation processes and implications for study of the assemblage.

The average sherd weight within each phase was calculated as weight divided by number of sherds (Fig. 6-23). Table 6-49 illustrates an interesting pattern of average sherd weight. Starting from the bottom of the site (Phase 11) and working to the top (Phase 0), there is a gradual reduction in sherd weight, with a smaller peak in Phases 8 and 9. This reduction in sherd weight is mirrored in the NE Extension even though the sherds in this area are at the smallest end of the spectrum of all those from the site. The phases with the highest average sherd weight are Phases 7, 8, 9 and 11, all being over 25g, while the lowest average sherd weight is found in the NE Extension Upper, at only 7g. All of the Late Iron Age phases have an average sherd weight under 15g, while all Cellular and Roundhouse phases have an average sherd weight over 15g.

Mode sherd size shows little in the way of strong patterning, although there is a slight trend towards slightly larger sherds in the earlier phases. A graph illustrating maximum and minimum sherd sizes by phase (Fig. 6-22) demonstrates that the minimum sherd size varies little, remaining largely the same throughout the phases at less than 30mm, while the maximum sherd size is more variable with the largest sherd size recorded in Phase 9 at 45cm. The minimum sherd size is likely to remain fairly constant because sherd breakage resulting in sherds smaller than about 2cm across means these small sherds are less likely to be collected in the field. If breakage or disintegration occurs during storage or post-excavation then these small sherds are more likely to be discounted during cataloguing as their small size makes it unlikely that any useful information would be gained from them. There is a gradual decrease in maximum sherd size during the Late Iron Age from Phase 4 to

Phase 0 (from 165mm to 110mm), and in the NE Extension from Lower to Upper (from 110mm to 55mm). Maximum sherd size in the Cellular and Roundhouse phases is a little more variable but consistently stays at 120mm or above. This can be tied in with the average sherd weight patterns.

Table 6-49: Average sherd weight and size by phase, diagnostic sherds only

Phase	Average sherd weight (g)	Mode sherd size (mm)
LIA Multiple	16	45
0	15	40
1	11	30
2	13	30
3	15	30
4	14	40
Cellular Multiple	22	40
5	19	40
6	22	50
7	29	50
8	31	40
9	26	40
Roundhouse Multiple	20	40
10	22	40
11	28	50
NE Ext L	12	40
NE Ext M	12	40
NE Ext U	7	30
Galleries Unphased	18	40
Entrance Unphased	19	40

Average sherd size can also be calculated by taking the sherd size in centimetres and dividing it by the number of sherds present. A graph illustrating these calculations (Fig. 6-21) shows that there is a reduction in average sherd size during the Late Iron Age to under 40mm and a peak during the Cellular phases (generally over 50mm), with the largest peak in the Roundhouse Multiple-phase contexts (62mm). The smallest average sherd size is found in the NE Extension Upper phase, which corresponds to the evidence of average sherd weight.

There are few strong patterns within sherd abrasion throughout the sequence (Fig. 6-24). Sherds of average condition always comprise between 10% and 30% of the assemblage by weight, while sherds which are very abraded comprise between 5% and 30% of the assemblage, with the exception of those from the NE Extension

Upper phase which sees 61% of very abraded sherds. This links in with the very low average sherd weight seen in this phase. Perhaps this area outside the CAR in this phase sees a great deal of activity, which is causing heavy abrasion and is fragmenting the sherds: the average sherd size here is 30mm. It would perhaps be expected for the NE Extension material to have a smaller average sherd size, due to more trampling and abrasion forces around the outside of the CAR.

This pattern can be illustrated in an alternative way. A graph depicting weight and number of sherds by phase as percentages of the total (Fig. 6-20) shows an overemphasis on weight in the Cellular phases, while in the Late Iron Age phases it is under emphasised compared to the number of sherds.

These are interesting results, and perhaps initially appear to be the reverse of what would be expected. It would perhaps make sense for the earlier contexts to have a smaller average sherd weight and size due to more years of trampling and rebuilding on top. However, these results suggest that once the earlier phases were sealed then they stayed sealed, while the later phases are subjected to more re-working and trampling. A possible explanation for this would be that there was a change in the rate of waterlogging of the site, which is discussed in more detail in Chapter 7. In section, the earlier phases are characterised by thicker layers of deposit while the Late Iron Age phases are characterised by thinner layers of deposit and the structures are less well preserved.

6.10.2 By Form

Average sherd weight by form would only be useful for identifying potential intrusive sherds and will not be examined in detail here.

Figure 6-20: Average sherd weight and size by phase

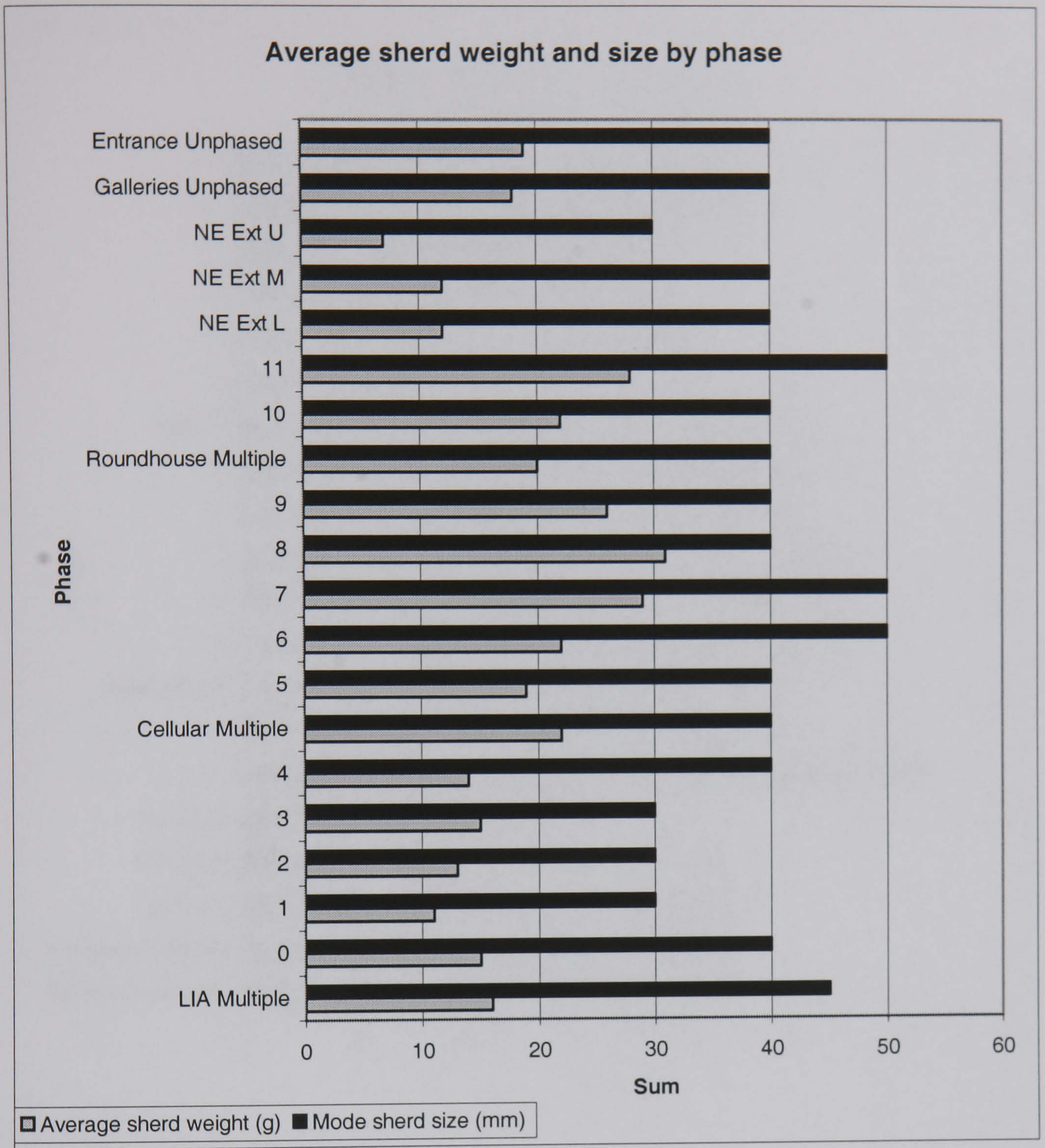


Figure 6-21: Average sherd size by phase

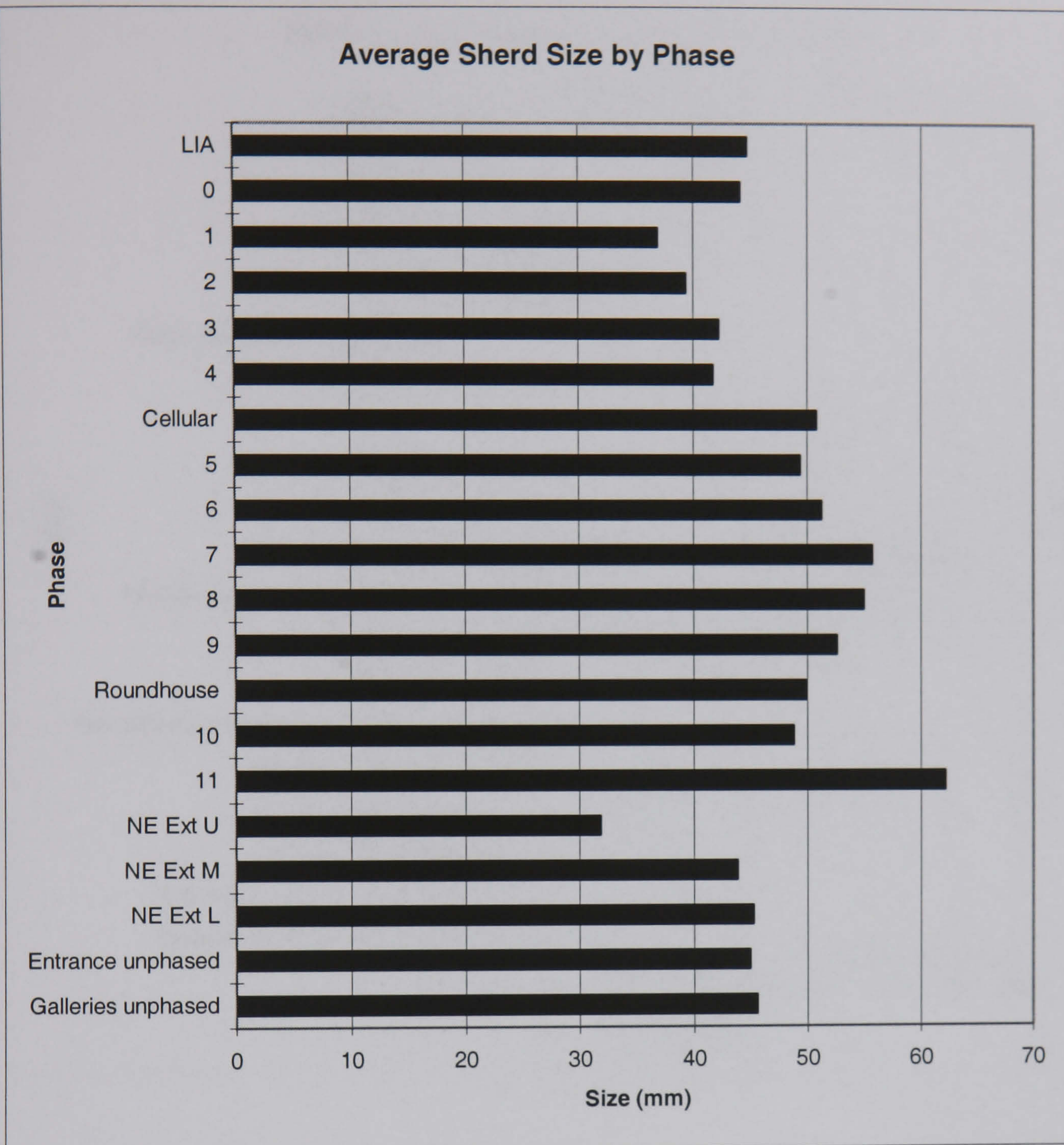


Figure 6-22: Maximum and minimum sherd size by phase

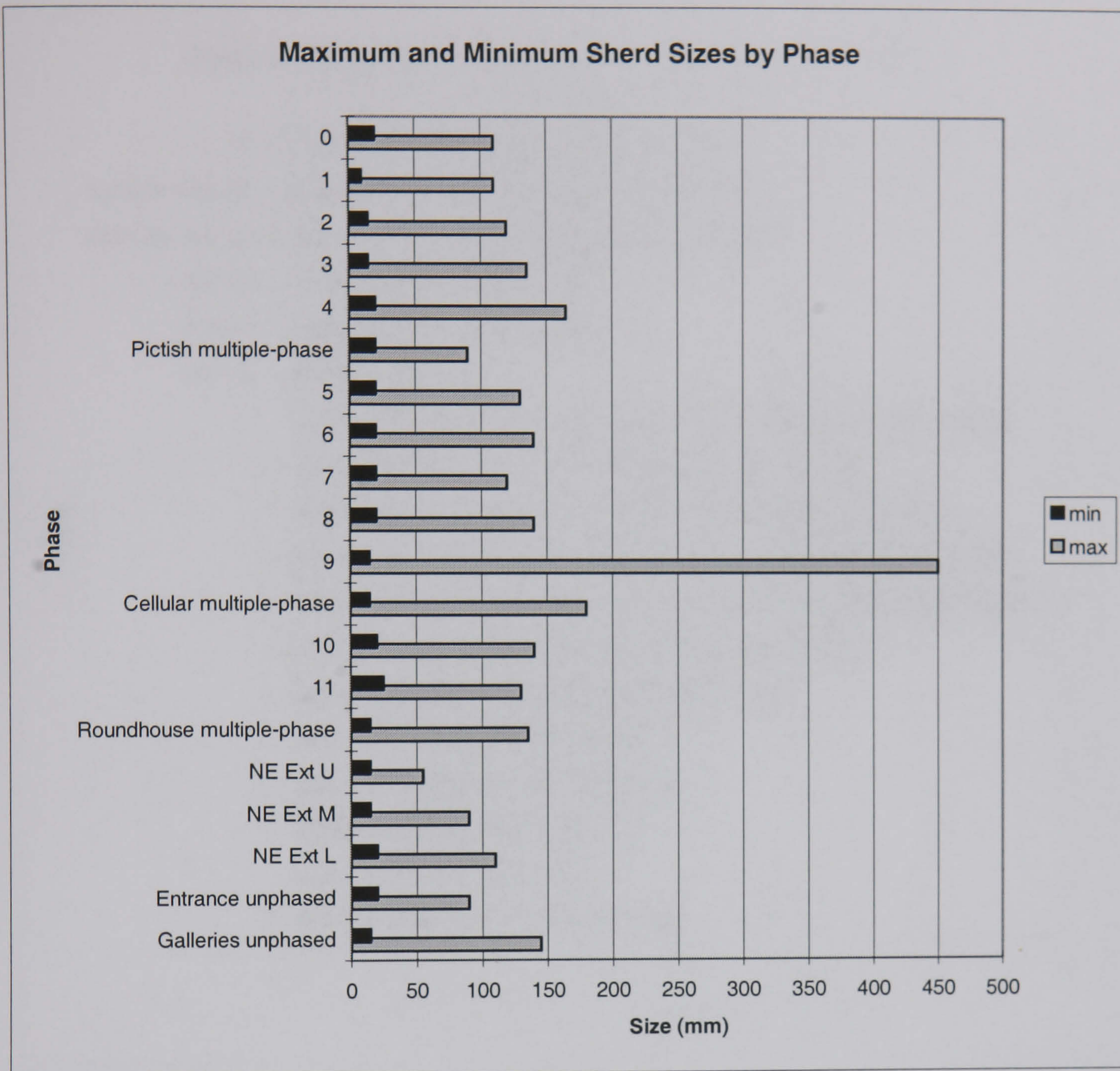


Figure 6-23: Average sherd weight by phase

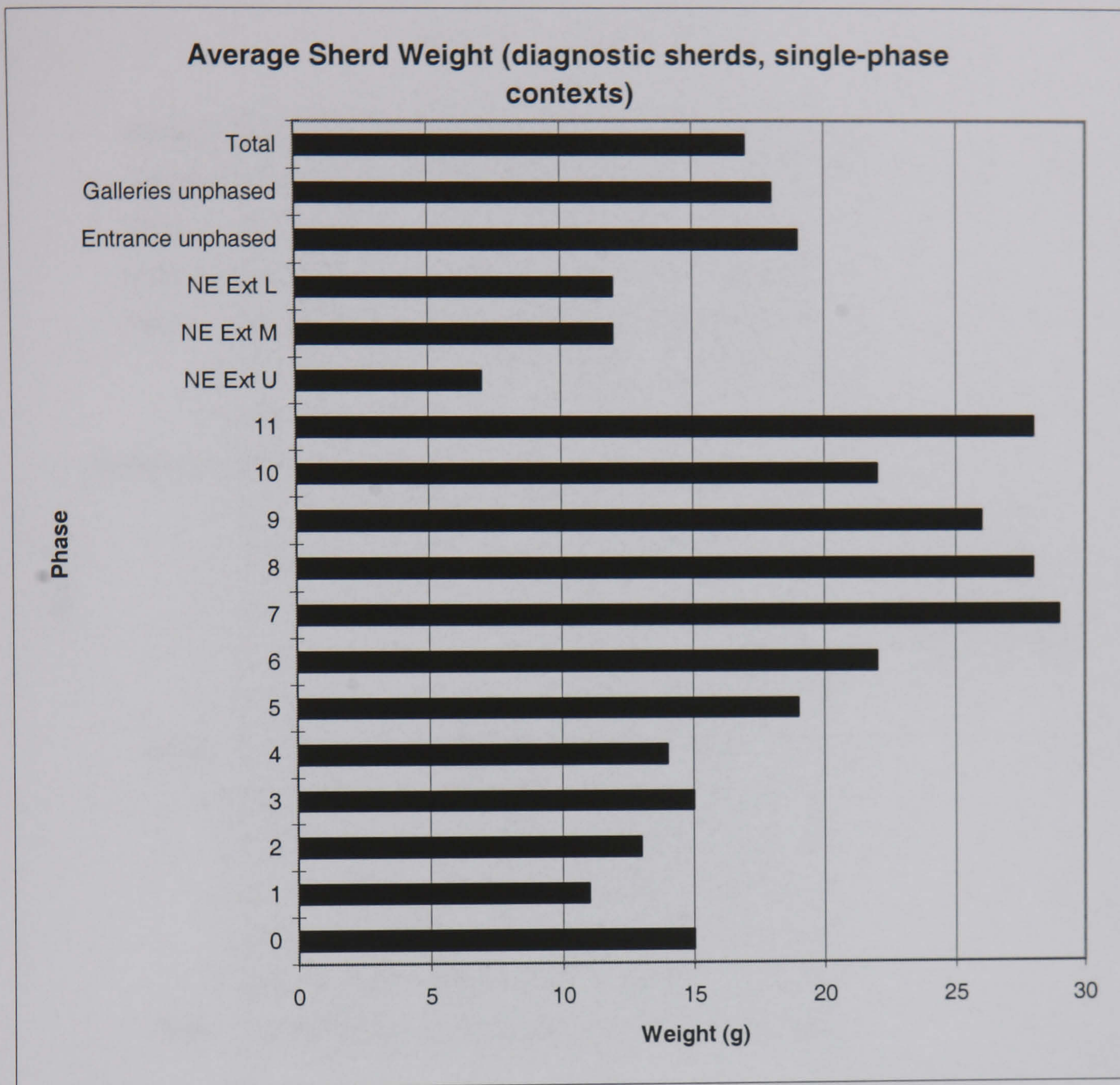
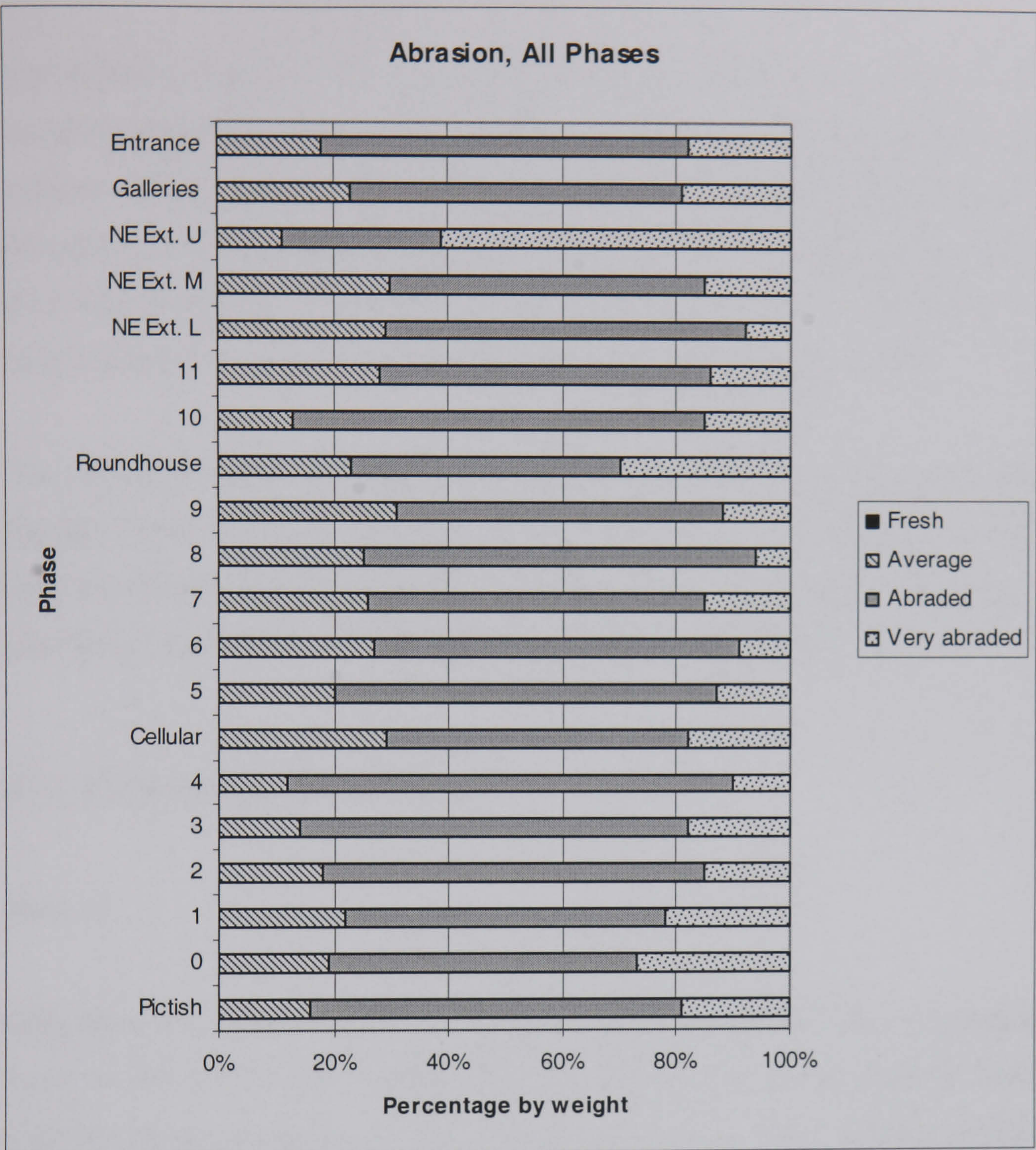


Figure 6-24: Abrasion by phase



6.11 The Beirgh sequence

Not all of the characteristics examined have produced patterning that could be of use in determining a sequence of change. Those categories that do produce clear evidence of change are form, fabric, some manufacturing techniques, firing, and decoration. Those categories that do not produce any strong patterning are sherd thickness, vessel size, surface deposits, abrasion, sherd size and sherd weight. These latter categories will not be used in establishing a sequence for Beirgh.

This section will provide a summary description of the pottery from each phase of the site. This definitive sequence will then be used in subsequent chapters as the basis for discussion of the social and economic aspects of the assemblage, and for providing comparisons with other sites throughout the Western Isles.

6.11.1 The Roundhouse Period

Phase 11

Only three rim forms are present, Forms 3, 7 and 9 (Fig. 4-1). The most common is Form 9 with over 90% by weight. Base forms are dominated by Form 24. The most common fabrics are medium with moderate inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are usually formed as a separate piece but there is no distinction present in base manufacture. Angled coil breaks only are present. Both interior and exterior surfaces tend to be smoothed. Rim diameter ranges from 9cm to 28cm, base diameter ranges from 6cm to 13cm. A majority of sherds are oxidised and most commonly have a firing profile of type 1. Just under half of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 38%, incised 8%, impressed 0%, channelled 2%, other 2%, and combined techniques 5%.

Phase 10

This phase (Fig. 4-2) is dominated by everted rim vessels (Form 9), with slightly higher percentages of Forms 1 and 2, respectively 16% and 12% by weight. There are small quantities of Form 3, 4, 7, 8, 10, 13, 15 and 16 present, each at less than 10%. Base forms are dominated by Form 24, although Form 23 reaches to just over 20%. The most common fabrics are medium with moderate inclusions, and a majority of sherds have organic impressions and/or temper visible. Rims are more commonly formed as separate sections. Walls are generally attached to the base plate with an angled join. Angled coil breaks are more common than tongue-and-groove breaks. Both interior and exterior surfaces tend to be smoothed. Rim diameter ranges from 10cm to 34cm, base diameter ranges from 6cm to 11cm. A majority of sherds are oxidised and most commonly have a firing profile of type 1. Just over 30% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 13%, incised 4%, impressed 10%, channelled 3%, other 1%, and combined techniques 2%.

6.11.2 Cellular Period

Phase 9

In this phase (Fig. 4-4), everted rims dominate (Form 9), with small quantities of Forms 1, 7, 8, 10, 12, 15, 16 and 17, each at less than 10% by weight. Form 24 is the most common base form, with smaller quantities of Forms 23 and 26 (less than 15%). The most common fabrics are medium with common inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as separate sections. Walls are generally attached to the base plate with an angled join. Angled coil breaks are more common than tongue-and-groove breaks. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are oxidised and most commonly have a firing profile of type 13. Rim diameter ranges from 10cm to 28cm, base diameter ranges from 6cm to 14cm. Just under 40% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 28%, incised 4%, impressed 1%, channelled 2%, other 2%, and combined techniques 1%.

Phase 8

This phase (Fig. 4-5) is dominated by everted rims (Form 9), with small quantities of Forms 1, 8, 12, 16 and 17, each at less than 10% by weight. Flat bases (Form 24) are prevalent. The most common fabrics are medium with moderate inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as separate sections. There is no distinction between base manufacture. Angled coil breaks are more common than tongue-and-groove breaks. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are oxidised and most commonly have a firing profile of type 1. Rim diameter ranges from 12cm to 25cm, base diameter ranges from 8cm to 11cm. Just over 40% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 35%, incised 2%, impressed 1%, channelled 1%, other 2%, and combined techniques 1%.

Phase 7

This phase (Fig. 4-6) is dominated by everted rims (Form 9) and flat bases (Form 24). There are small quantities of Forms, 3, 7, 12, 14, 16, 17, 23 and 26, each at quantities of 10% or less by weight. The second most common rim form is Form 17. The most common fabrics are medium with moderate inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as separate sections. Walls are generally attached to the base plate with an angled join. Angled coil breaks are more common than tongue-and-groove breaks. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are oxidised and most commonly have a firing profile of type 1. Rim diameter ranges from 13cm to 24cm, base diameter ranges from 6cm to 10cm. Just under 50% of diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 51%, incised 1%, impressed 1%, channelled 1%, other 0%, and combined techniques 1%.

Phase 6

This phase (Fig. 4-7) is dominated by everted rims, Form 9, at almost 70% by weight. Forms 1, 8, 11, 16 and 17 each comprise less than 10%. Of the base forms, Form 24 dominates, with 81%, while Form 25 comprises 16% by weight. The most common fabrics are medium with moderate inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as a separate section. Walls are generally attached to the base plate with an angled join. Angled coil breaks are more common than tongue-and-groove breaks. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are oxidised and most commonly has a firing profile of type 1. Rim diameter ranges from 10cm to 30cm, base diameter ranges from 6cm to 11cm. Just under 40% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 32%, incised 3%, impressed 1%, channelled 2%, other 1%, and combined techniques 0%.

Phase 5

This phase (Fig. 4-8) is dominated by Form 9, at 46%, but there is a high percentage of Form 16 as well, at 28%. Other forms present include Form 1, 3, 5, 7, 8, 10, 11, 12, 15 and 17, all at less than 10% each by weight. Of the base forms, Form 24 is more common than Form 23, by 59% to 23%. The most common fabrics are medium with moderate inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as a separate section. Walls are generally attached to the base plate with a tongue-and-groove join. Angled coil breaks are more common than tongue-and-groove breaks. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 8. Rim diameter ranges from 8cm to 29cm, base diameter ranges from 5cm to 13cm. Just under 30% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 19%, incised 2%, impressed 1%, channelled 2%, other 2%, and combined techniques 1%.

6.11.3 Late Iron Age Period

Phase 4

This phase (Fig. 4-10) is dominated by Form 16, with almost 40% overall by weight. It is followed by Form 15, with 14%. There are surprisingly high percentages of Forms 1 and 9, at 11% and 10% respectively. Other forms present include Form 3, 4, 8, 11, 13 and 17, all at less than 10%. There is a slightly higher percentage of Form 23 than Form 24 for base forms, at 46% to 38%. The most common fabrics are coarse with common inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as a separate section. Walls are generally attached to the base plate with a tongue-and-groove join. Tongue-and-groove coil breaks are more common than angled coil breaks. Exterior surfaces are commonly roughened while interior surfaces are smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 8. Rim diameter ranges from 12cm to 29cm, base diameter ranges from 6cm to 14cm. Just over 10% of the sherds are decorated. Overall, the proportions of decorative techniques are: applied 7%, incised 1%, impressed 1%, channelled 1%, other 1%, and combined techniques 0%.

Phase 3

This phase (Fig. 4-11) is dominated by Form 16, at almost 40% by weight. The second most common forms are Forms 4, 7 and 15 each with between 10% and 20% by weight. There are small quantities of Forms 1, 3, 9, 12, at less than 10% each by weight. Base Form 23 is slightly more common than Form 24, at 45% to 32% by weight. The most common fabrics are coarse with common inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as a separate section. Walls are only attached to the base plate with a tongue-and-groove join. Tongue-and-groove coil breaks are more common than angled coil breaks. Exterior surfaces are commonly roughened while interior surfaces are smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 8. Rim diameter ranges from 10cm to 29cm, base diameter ranges from 7cm to 15cm. Only 10% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 7%, incised 1%, impressed 1%, channelled 0%, other 0%, and combined techniques 1%.

Phase 2

This phase (Fig. 4-12) is dominated by Form 16, reaching a little over 50% by weight. The second most common forms are Forms 3 and 15. There are small quantities of forms 1, 4, 6, 8, 9, 10, 11 and 17, each at less than 10% by weight. Base Form 23 is slightly more common than Form 24, at 47% to 38% by weight. The most common fabrics are medium with common inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as a separate section. Walls are generally attached to the base plate with a tongue-and-groove join. Tongue-and-groove coil breaks are more common than angled coil breaks. Exterior surfaces are commonly roughened while interior surfaces are smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 8. Rim diameter ranges from 10cm to 35cm, base diameter ranges from 5cm to 20cm. Less than 10% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 4%, incised 1%, impressed 1%, channelled 1%, other 1%, and combined techniques 1%.

Phase 1

This phase (Fig. 4-13) is dominated by Forms 15 and 16, with 32% and 29% by weight respectively. Form 3 comprises 16% by weight, while Forms 4, 6, 8, 9, 11 and 17 each comprises less than 10%. The most common fabrics are coarse with common inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as a separate section. Walls are generally attached to the base plate with a tongue-and-groove join. Tongue-and-groove coil breaks are more common than angled coil breaks. Exterior surfaces are commonly roughened while interior surfaces are smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 8. Rim diameter ranges from 14cm to 33cm, base diameter ranges from 6cm to 15cm. Less than 10% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 2%, incised 1%, impressed 0%, channelled 0%, other 1%, and combined techniques 0%.

Phase 0

This phase (Fig. 4-14) has a mix of forms present, but the most common is Form 16 with 31%. Forms 3, 11 and 15 each comprise between 10% and 20% by weight, while Forms 4, 6, 8, 9 and 17 each have less than 10%. Of the base forms, Form 23 dominates, with 53%. The most common fabrics are coarse with common inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more often formed as a separate section. Walls are generally attached to the base plate with a tongue-and-groove join. Tongue-and-groove coil breaks are more common than angled coil breaks. Exterior surfaces are commonly roughened while interior surfaces are smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 8. Rim diameter ranges from 14cm to 32cm, base diameter ranges from 8cm to 16cm. Just over 10% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 6%, incised 2%, impressed 3%, channelled 0%, other 0%, and combined techniques 0%.

These patterns are also present within the LIA Multiple-phase contexts (Fig. 4-15), although Form 16 is only narrowly more common than Form 9, at 32% to 27%, with Forms 3, 11 and 15 each at 20% or less by weight. Of the base forms, Form 24 is more common than Form 23, by 51% to 29% by weight.

6.11.4 NE Extension

Lower

This phase (Fig. 4-16) is dominated by Form 7, with 54% by weight, followed by Form 9 with 32%, Form 1 with 10%, and Form 4 with less than 5%. Of the base forms, Form 24 has a small majority with 55% by weight compared to 45% for Form

23. The most common fabrics are fine with moderate inclusions. A majority of sherds also have vegetal impressions and/or temper present. Folded rims are more common. Angled coil breaks are the only type present, and the walls are generally attached to the base plate with angled joins. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are oxidised and most commonly have a firing profile of type 3. Rim diameter ranges from 14cm to 29cm, base diameter ranges from 5cm to 10cm. Just under 60% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 13%, incised 25%, impressed 10%, channelled 2%, other 2%, and combined techniques 4%.

Middle

This phase (Fig. 4-17) is dominated by everted rims, Form 9, with 66% by weight. This is followed by Form 1 with 18% by weight. The remaining rim Forms, 7 and 8, each have less than 109% by weight. Of the base forms, Form 24 dominates, with 65%, followed by Form 23 with 27% and Form 26 with 3%. The most common fabrics are medium with moderate inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are more commonly formed as separate sections. No distinction is present in base manufacture. Angled coil breaks are the only type present. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 13. Rim diameter ranges from 9cm to 18cm, base diameter ranges from 7cm to 12cm. Just under 50% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 18%, incised 16%, impressed 8%, channelled 3%, other 0%, and combined techniques 3%.

Upper

This phase (Fig. 4-18) is dominated by everted rims, Form 9, with almost 70% by weight. The remaining rim forms, Form 3, 8, 10 and 16, each comprise less than 10% by weight. Base Form 23 dominates, with almost 60% by weight compared to 16% for Form 24. The most common fabrics are medium with sparse inclusions, and a majority of sherds do not have organic impressions and/or temper visible. Rims are only formed as separate sections. Walls are attached to the base plate with only angled joins. Angled coil breaks are the only type present. Both interior and exterior surfaces tend to be smoothed. A majority of sherds are unoxidised and most commonly have a firing profile of type 1. The only recorded diameter is a rim diameter of 22cm. Just under 30% of the diagnostic sherds are decorated. Overall, the proportions of decorative techniques are: applied 15%, incised 9%, impressed 4%, channelled 0%, other 0%, and combined techniques 0%.

6.12 NE Extension Phases and Galleries Unphased

Although the area excavated outwith the CAR walls at Beirgh, known as the NE Extension, has its own sequence of internal stratigraphy, this cannot be stratigraphically linked to the sub-phases inside the broch walls. It is possible, however, that the characteristics of the pottery assemblages from the NE Extension can be compared to and then linked in with the site's sub-phases.

Unfortunately, the NE Extension phases do not each correspond neatly with a single other phase. However, by looking at some of the more changeable and strongly patterned characteristics, such as decoration, it is at least possible to assign broad dates.

There is little difference between the phases in surface finish, each being dominated by smoothing on both the interior and exterior surfaces. There also appear to be few differences in manufacturing technique, all exhibiting only angled coil breaks. As was noted above, however, the pattern of firing flips from that of the main sub-phases, changing from a majority of unoxidised in the Lower phase to a majority of oxidised sherds in the Upper phase. The percentage of sherds without visible surface deposits also drops in the Upper phase, but this may be related to the extensive degree of abrasion and the small sherd size seen in this phase, as discussed above.

In decorative technique and motif, the NE Extension Lower and Middle phases are very similar to each other. The NE Extension Middle phase is probably closer to Phase 11 than any other, and thus could be said to correspond with the Roundhouse Phase. The NE Extension Upper phase is most similar to Phase 10. NE Extension Lower has a higher percentage of incised decoration than any other phase, and therefore it is possible that this phase is the earliest yet excavated.

It is clear that the NE Extension phases are internally consistent with each other, a consistency that follows the broad phase patterning seen in the other phases. In microcosm, and of course with some phases missed out, the significant trends are played out in the NE Extension. For example, the percentage of decorated sherds decreases from 67% in the Lower phase to 44% in the Middle and 38% in the Upper phase. As regards the forms present in these phases, the Upper phase sees the appearance of Forms 3 and 16, forms which are typically more characteristic of the Late Iron Age than Cellular or Roundhouse. The Upper phase also sees the disappearance of Form 7, which actually comprises the most common form in the Lower phase, and of Form 1. It seems likely then that the NE Extension phases relate to some of the earliest excavated phases.

The material from the Galleries forms a large unstratified assemblage. Figure 4-19 shows the forms present within the unphased Gallery contexts and it is clear that although these contexts are dominated by Form 9, there is a very mixed assemblage represented and the second most common form is Form 16. It is also clear that a wide variety of decorative techniques and motifs were found (Table 4-30, Table 6-28). This suggests that pottery deposition within the Galleries continued over a long period of time, resulting in a mixed assemblage. There is no available stratification within these deposits so further analysis is not possible at this time. Its deposition is discussed further in Chapter 7.

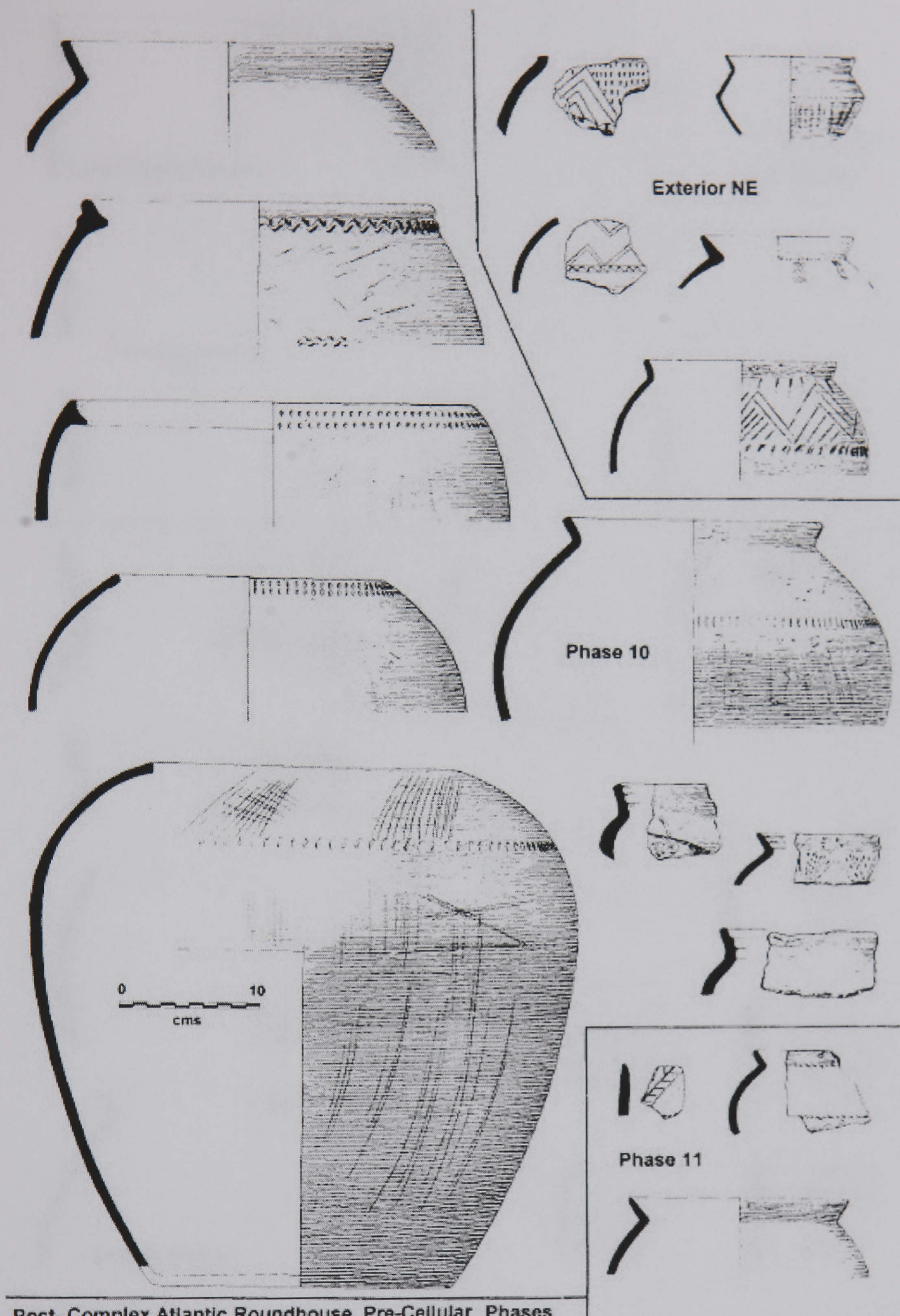


Fig. 6-25: Examples of Roundhouse Phase pottery types (from Harding 2000, Fig. 9)

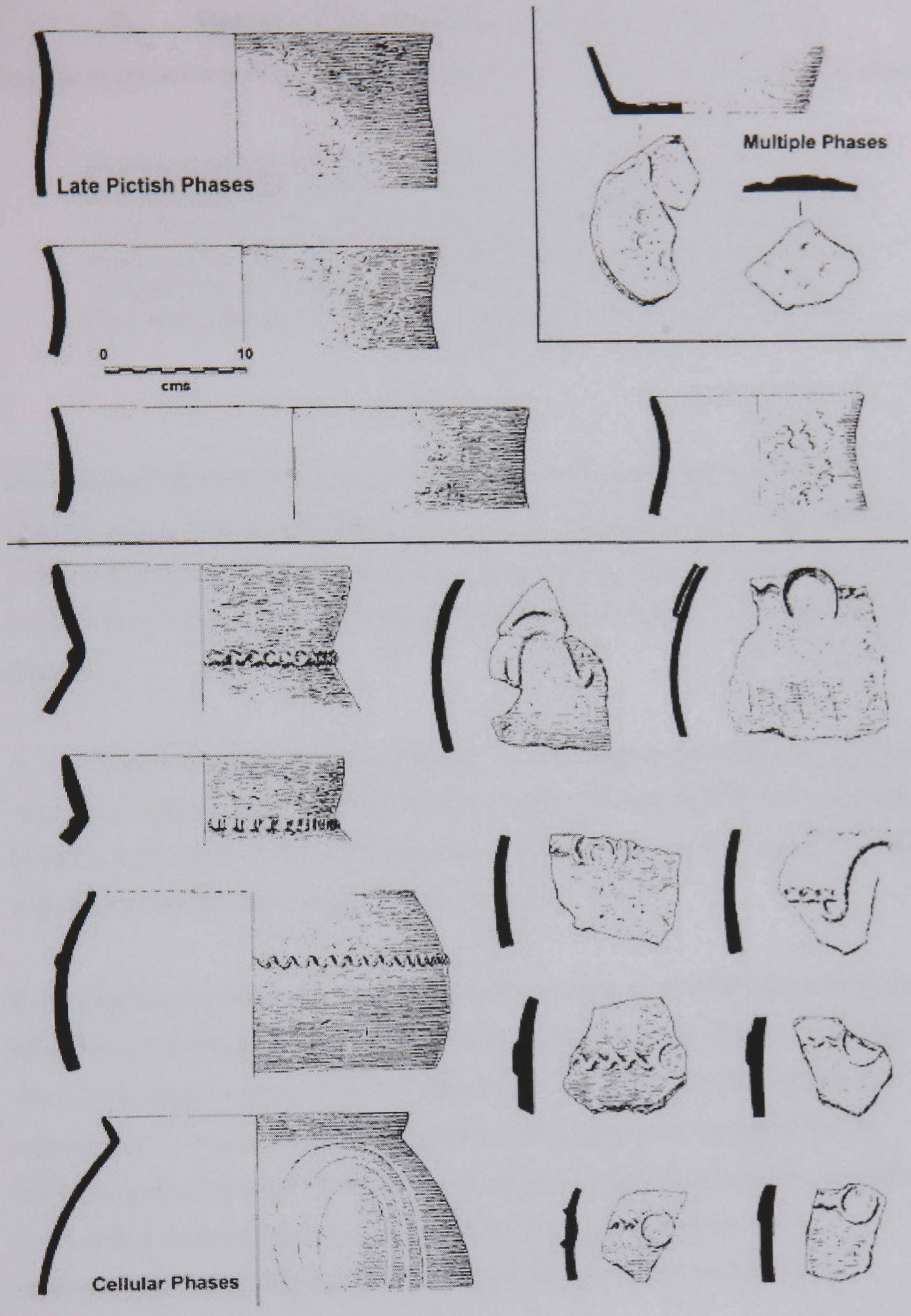


Fig. 6-26: Examples of Cellular and Late Iron Age Phase pottery types (from Harding 2000: Fig. 10)

7. Pottery Life History: Themes from Beirgh

"Studies of prehistoric pottery begin with no *a priori* knowledge of why pots were made or what they were used for. We do know, however, that pots were *made* in a necessary series of stages by individuals whose choices and hence behaviour at every stage of the process are recorded in their pots and sherds. That direct, secure relationship provides us with a rare glimpse of some of the behaviour of prehistoric individuals."
(Vitelli 1995: 55)

This chapter will consider a number of themes which have emerged from this research on the Beirgh assemblage, and will aim to answer some of the questions most frequently asked of pottery assemblages, such as: what date is it? Where was it made? What was its function? What does the decoration mean? And why does it change?

A convenient methodology for examining a social archaeology of pottery at Beirgh is to follow a life history approach (Schiffer 1995). This has been defined concisely by Skibo & Feinman (1999: 2): "Pottery life history consists of three primary stages: manufacture and distribution, use, and discard".

By taking this approach, the examination and discussion of the Beirgh pottery can be divided into three separate sections: manufacture, use and discard. Although some of the themes pursued in each section can cross-cut these boundaries, this approach has advantages because they form three distinct episodes in the life history of pottery vessels. These episodes may involve different people, certainly involve different processes, and reflect differently on the ways in which archaeological assemblages of pottery can be interpreted and understood.

In considering the life histories of pottery from Beirgh it proved useful to draw flow chart diagrams, which illustrate some of the pathways which pottery can take during its use life. These are illustrated below, and the influence of Schiffer (1987) here is admitted. It is acknowledged that these diagrams cannot possibly include every single different path and possibility, but they prove a useful tool for consideration.

7.1 Manufacture and Distribution

7.1.1 Clays

Firstly, the raw clay itself must be considered (Fig. 7-1). Determining the provenance of clays is often one of the first questions asked of pottery, to establish where it was made. This can lead on to questions of trade, as pottery identified as being made of a particular clay source may be found at some distance from that source. Distribution maps showing the presence of particular fabric types can suggest trade connections, linking pots with the same clay source. In turn this can suggest the kinds of social connections present and other material or ideas which may have been traded alongside. One of the best known studies is of gabbroic wares. Gabbroic clays are found on the Lizard Peninsula in Cornwall and have distinctive inclusions which are easily identified in thin-section (Gibson & Woods 1997: 167). Neolithic pottery made from gabbroic clays (known as Hembury Ware) has been found all over south-western England. It was recognised as being the first solid evidence for trade during this period (Peacock 1969) as it was found as far afield as Devon and Wiltshire.

Figure 7-1: The manufacturing process

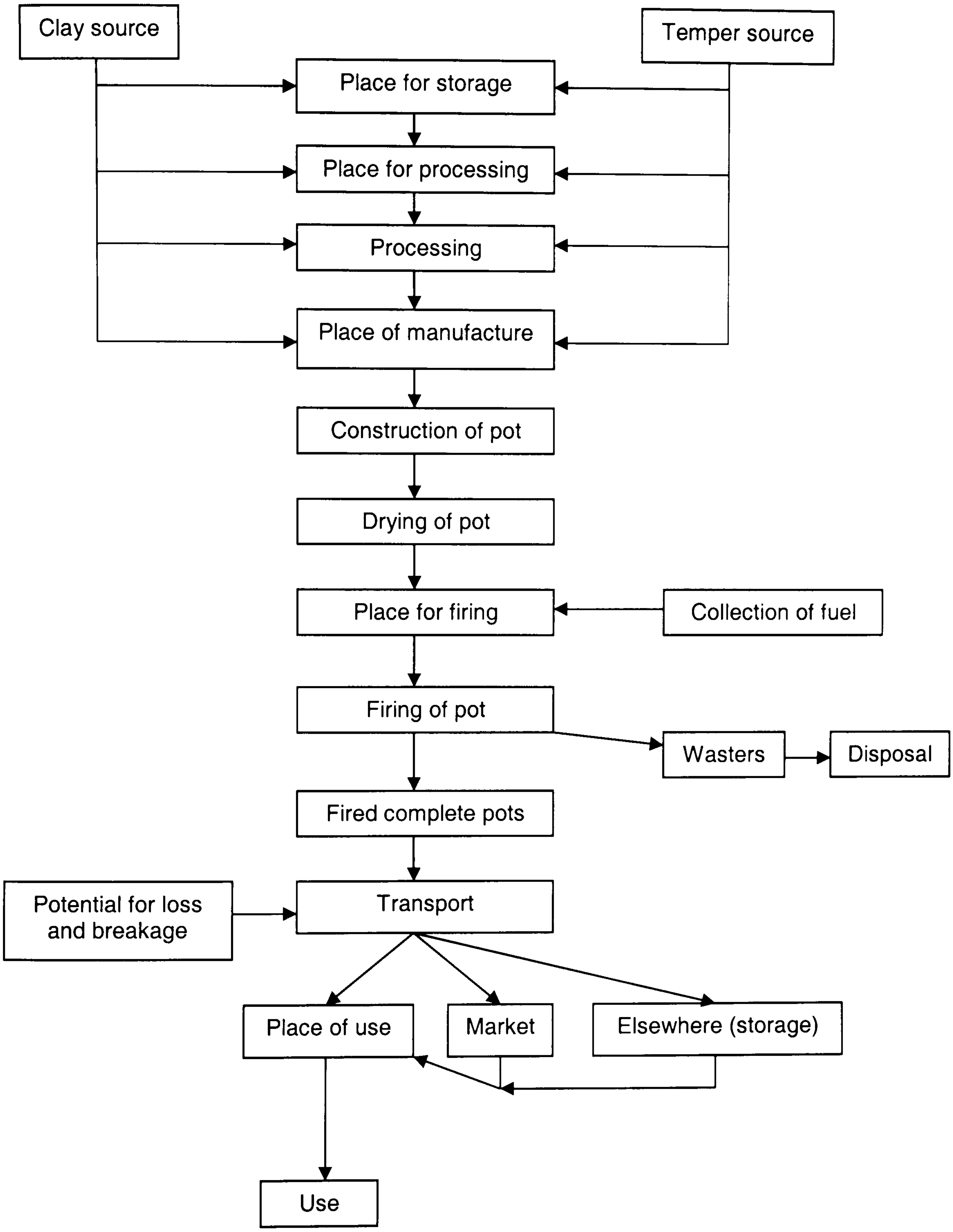


Figure 7-2: Primary Use-life: simplified processes

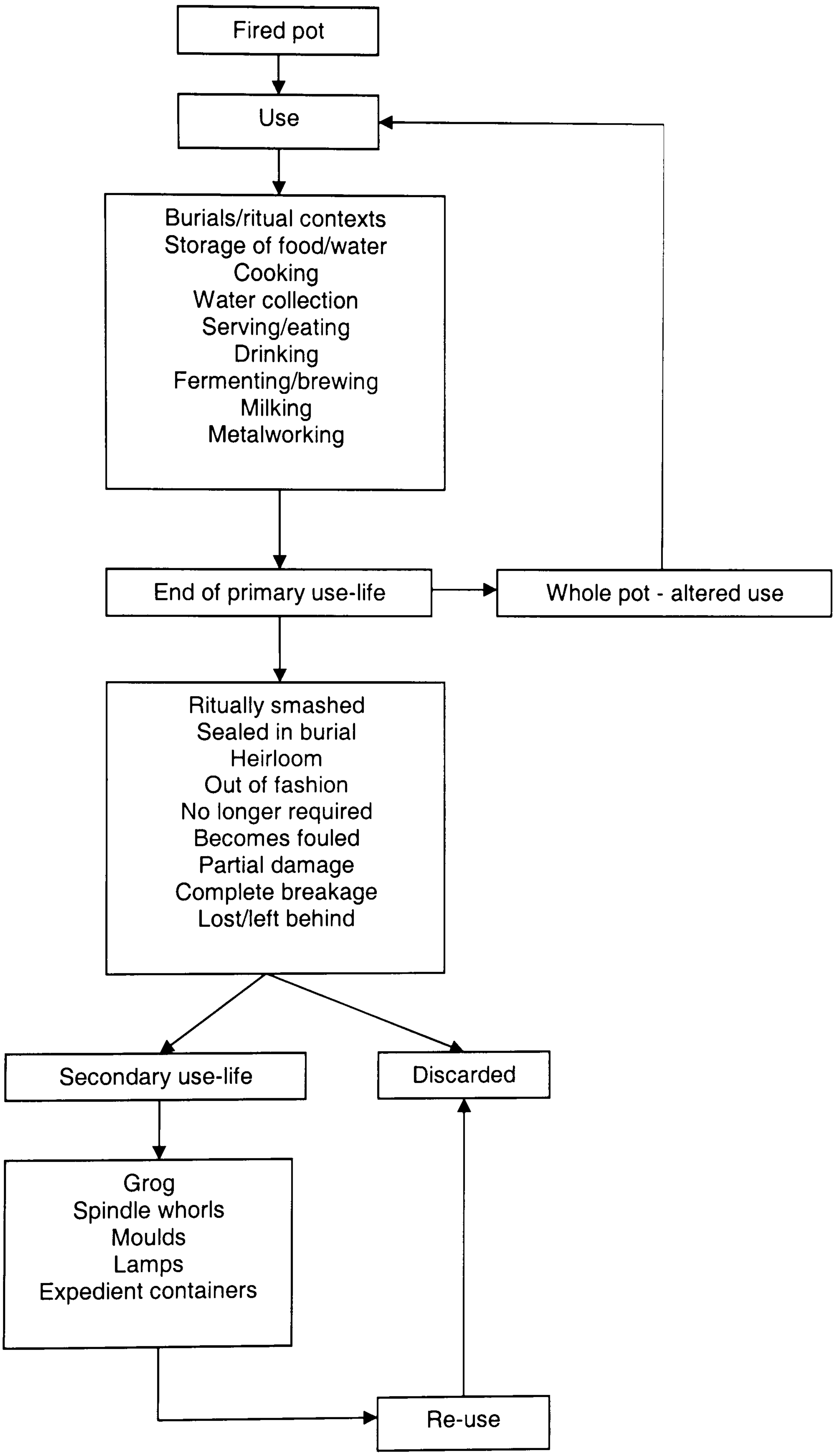
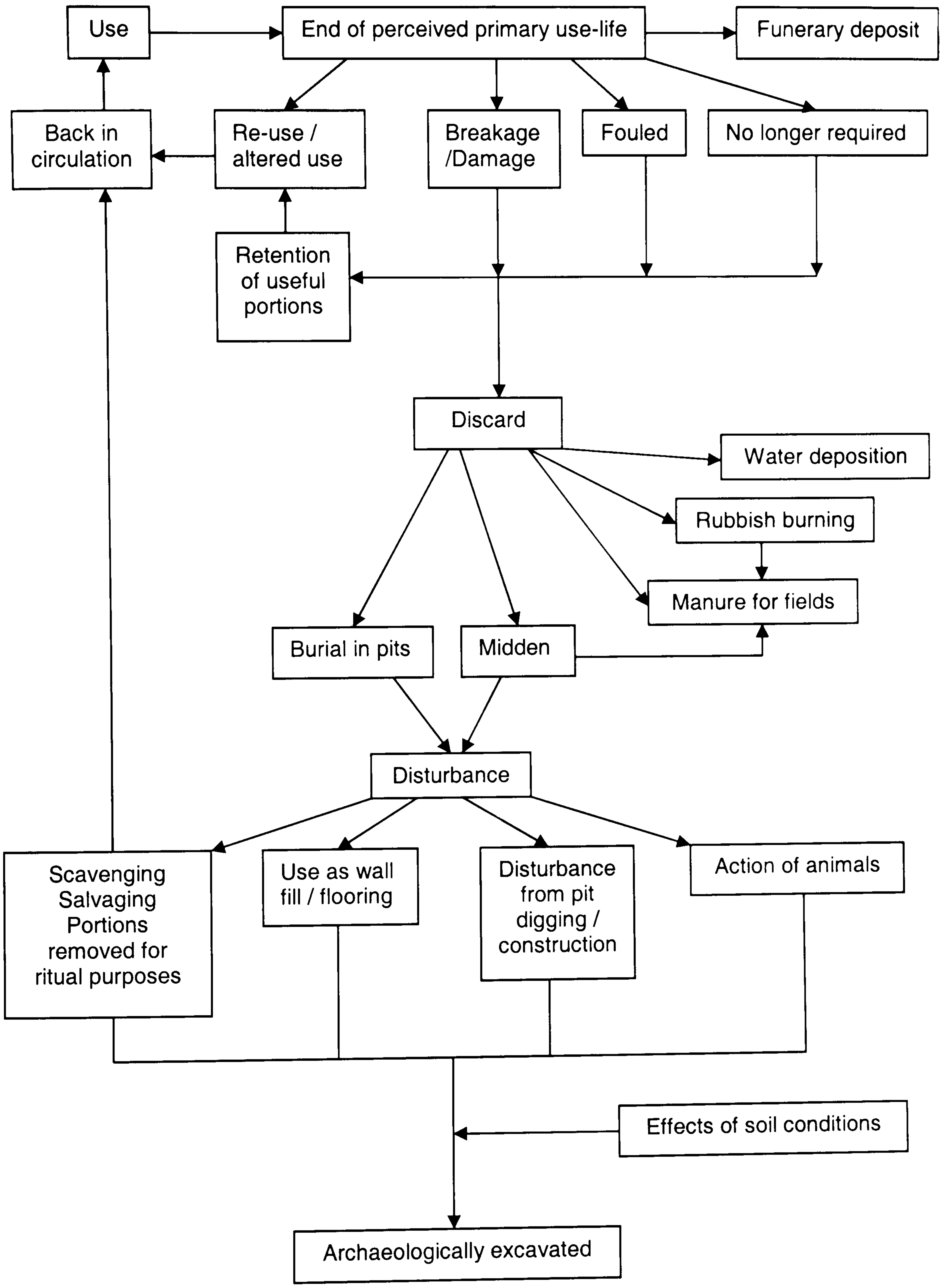


Figure 7-3: Secondary Use-life: simplified processes



As discussed in Chapter 3, very little work has been done on ceramic petrology in the Western Isles, and indeed Topping concluded from his analyses that "later prehistoric pottery in the Western Isles was locally produced and locally distributed" (Topping 1986: 127-128). The most recent study, although very small in scale, was carried out on material from Northton on Harris, encompassing sherds from Neolithic to Medieval periods (Phillips unpublished). This study has indicated that clay sources were located very close to the settlement. Subtle differences in the fabrics verifiable by eye backed up the studies findings (Johnson in Simpson *et al* forthcoming), indicating that fabrics from different periods may be identifiable at the macroscopic scale on a general level but that it cannot be relied upon on its own.

The lack of extensive and detailed work on clay sources and fabrics in the Western Isles and indeed across Scotland means that it is not possible to say for certain that pottery was not traded outside of the Western Isles. It is also not possible to establish whether sites with no suitable clay source nearby procured clay or complete pots. So, on present evidence, the most likely sources for clays were those within easy reach of the settlements.

A type of site catchment model, proposed by DE Arnold (1985: 56) after studying two samples of societies with traditional potters, suggested that clay and temper are generally procured within 7-9km of the home base (84% and 97% of the societies studied by Arnold in his two samples). An ethnographic study by Sillar (1997) amongst traditional potters in the Andes certainly seems to back this up (Sillar 1997: 5, Table 1), and these figures are often repeated (e.g. Rice 1987: 116). Arnold also determined that 33% and 52% of the societies in the same two samples collected clay from within 1km of their home. In practical terms this would certainly make sense: wet clay is heavy and would be difficult to transport over long distances in any quantity. However, the furthest distances travelled as recorded by Arnold in his two samples (1985) were 25km and 50km.

Elaine Morris (1997) used these distance estimates as the basis for examining pottery production and distribution in the Iron Age of southern Britain, in particular around

Danebury. Through fabric analysis she found that the hillfort at Danebury and a farmstead settlement at Lains Farm each had about 50% of non-local pottery within their assemblages, i.e. their source material came from over 10km away during the early and middle Iron Age. This result does not seem to indicate that hillforts controlled the production or distribution of pottery during these periods, and therefore has important implications for the role of hillforts. She also found non-local pottery of similar quality and with similar fabric properties to that which could be made locally, leading to questions about why such pottery was imported when similar pots could easily be made locally. Morris suggests that the maintenance of social networks through the exchange of pottery was more important than whether pottery was local or not - these social networks could provide aid during crop failures, provide marriage partners, assistance in warfare, and any number of other social functions.

However, it may not be correct to envisage people just popping out to get clay from the nearest and best source whenever they wanted. We understand nothing of land ownership during the Iron Age, and clay may have had to be bought or its retrieval negotiated, or sources may have been owned co-operatively by communities or families. There are other factors to consider as well such as taboos surrounding certain places, rituals associated with its collection, or what sources were deemed good clay or bad clay (Rice 1987: 115). As the starting point of a lengthy process of manufacture, the selection of clay may have been of great importance and the best clays may have been fought over, or its retrieval accompanied by rituals and feasts (Rice 1987: 115). Alternatively, the collection of clay may not have had any social significance at all and may instead have been considered as a mundane task, dirty and hard work which was best avoided if possible, and was perhaps allocated to children or young adults. The frequency of collection is also unclear: clay could be collected just a few times a year or on a more regular basis, depending on the scale of production.

At Bostadh, on Great Bernera, Lewis, lumps of raw clay weighing 1.785kg in total were found in a number of contexts on the site (Johnson in preparation). The purpose of this clay or the reason for its presence on the site is not clear. If it was intended for potting then it is equally not clear whether this clay has already been worked and is ready for pottery making, or whether it is still in its natural state awaiting treatment. The clay is not present in sufficient quantities to suggest its extensive use for potting, and without further analysis it is difficult to be sure of its origin.

The question of temper is a difficult one. It is often unclear whether inclusions seen in the fabric of ceramics were added deliberately or were already present in the clay. Again the lack of petrological analyses is felt. The author has personal experience of two very different clay sources located on Lewis which would require very different preparation for potting. While this personal experience cannot be considered in any way scientific, it illustrates the variety within clays which might have been encountered. Glacial till, which can be dug from eroding coastal or riverine deposits is very coarse and crumbly, containing large quantities of sand and rock fragments, plus root action. Meanwhile, a clay source known on Traigh Mhor beach, near Tolsta on the east coast of Lewis was likely to be alluvial in origin and had no visible inclusions within it at all. While the former clay was too coarse and crumbly to shape pots with successfully, the latter clay, although highly plastic and easy to mould, was likely to shrink too much during drying. A brief experiment suggested that combining these clays proved useful. If prehistoric potters combined different clays to produce workable clays then analysing the fabric's composition analysis becomes meaningless to a certain extent.

It seems likely that material needed to be removed from clays prior to their use, as well as or instead of inclusions being added. In particular, large rock fragments would require removal as they would impede the ability to form a vessel, as well as potentially causing injury to the potter. Roots and leaves could be floated off through soaking the clay in water. The clay may also be cleaned by sieving or soaking. The clay will then be kneaded, by hand, by foot, or by wedging, to eliminate lumps and air pockets and to ensure an even distribution of inclusions and moisture (Rice 1987: 119). Clays may have been left to weather for a time before being formed into vessels. This may have occurred at the home or at the clay source, and may have entailed nothing more complex than spreading crushed clay onto a flat surface and leaving it for a time. It would then require soaking before it could be used.

The variability in fabrics seen at Beirgh may be attributable to differences in the clay sources used but this is not provable without thin section analysis. There is certainly variability in the quantity, size and type of inclusions present, which is more likely to be due to the individual clay 'recipe' prepared for each batch of potting. However, some patterning was present, such as the presence of organic temper in Form 2. There is also no archaeological evidence to suggest the preparation techniques used or to identify the preparation and storage areas.

7.1.2 Forming

The evidence for construction techniques at Beirgh suggests coil building was common, as indicated by the presence of coil breaks and unsmoothed coil joins on vessel surfaces.

Characteristic breaks indicating that rims were attached as separate sections suggests that, with everted rim pots, the body was made and allowed to dry a little before the rim was added, to prevent the weight of the rim buckling the body. The rims then often break off from the neck along the join, as this would be a weak point. Rims could also be formed by simply folding over the top coil and moulding it into shape.

Three types of base manufacture were identified, relating to how the walls were attached to the base plate. These were: base plates with a tongue, to which the wall was attached with an angled join; base plates with a tongue, to which the wall was attached with a tongue-and-groove join; and base plates with no tongue, where the wall was attached directly onto the base plate. A chronological distinction was determined for the first two techniques: angled joins to the wall tend to be Middle

Iron Age while tongue-and-groove joins to the wall tend to be Late Iron Age. The third technique was very rarely encountered.

The surface treatment of a vessel can have an impact upon its performance in certain tasks. Polishing or burnishing is often used to reduce a vessel's water permeability (Skibo & Blinman 1999: 178). Reducing the permeability of low-fired wares is important because "Without any surface treatment to impede permeability most vessels will weep badly and greatly reduce heating effectiveness. In fact, water will not boil in some low-fired pottery without a surface treatment to at least slow down water permeability." (Skibo & Blinman 1999: 178). However, there is a drawback to the polishing of low-fired vessels – as escaping water turns to steam it can spall the surface if its porosity is not open enough, and so surfaces may be polished just enough to inhibit water loss. Polishing and burnishing can be carried out with a number of tools, but at Beirgh the presence of smooth stones may indicate how this was carried out. These stones, referred to on site as polishing stones or rubbers, were found inside the buildings and so vessel finishing may have taken place indoors.

Relating this concept to the Beirgh pottery, it is clear that overall polishing and burnishing forms a very minor component of the surface finish of any vessel type. Smoothing is much more common, which is sufficient to prevent massive water loss. The later Iron Age vessels often have a very roughly finished exterior surface, produced by rough wiping or combing. This aspect of the vessels tends to catch the eye and leads to interpretations of the pottery being very coarse and rough. However, the interior surface tends to be smoothed, which again is sufficient treatment for the vessel to function as a carrier of liquid and in its heating.

It is necessary to explain why the late Iron Age pottery's surface finish changes to one which could be considered less aesthetically pleasing. In practical terms, a vessel with a roughened exterior would be easier to grip, and would be less likely to become slick from liquid or grease, so ensuring safer handling of the pot and its contents. It is possible that the cordons applied to the smoothed exteriors of everted rim pots are an aid to the handling of the vessel.

7.1.3 Firing

A potentially significant element in the manufacture of pottery in the Western Isles is the weather. The weather during the Iron Age was likely to be very similar to today (Armit 1996). The short summer months and high degree of precipitation throughout the year could make it difficult to dry unfired vessels. A pot must be dried out prior to firing otherwise excessive water in the body of the pot will turn to steam and, through its rapid escape through the pores of the clay, cause the vessel to explode. Firing a wet vessel is more likely to result in a failed firing, and so sufficient drying of the pot prior to firing is important. Drying must be undertaken slowly and evenly to avoid cracking and excessive shrinkage; pots can simply be left in a warm place for several days or weeks, can be pre-heated beside a hearth, or be left outside in a sheltered spot. If left to dry outside then this is dependent upon weather conditions; the wet and windy weather, which predominates during much of the year in the Western Isles, would not be ideal, and the days of warm sunshine are confined to a short summer. Even though dry, warm periods could be expected during the summer months, their unpredictability would make the manufacturing of large numbers of pots hazardous. This could result in potting being a seasonal activity, or could mean that pots were kept indoors for drying. The vessels could be stored in the house, where domestic warmth, away from direct heat from the hearth, would ensure adequate drying. The free space available for this would constrict the number of pots which could be made at any one time and so may be informative about the nature and scale of production, perhaps suggesting that only small numbers of pots were produced in a batch. Drying of large numbers of pots outdoors, even under shelter, may not allow adequate drying due to the generally cool and wet weather. It would seem unlikely that potting on any significant scale would have occurred in the long, wet and windy winters.

No definite evidence for kiln structures has been found in any period in the Western Isles. Although the structures found at Eilean an Tighe (Scott 1951) were interpreted by its excavator as the remains of kilns, this seems unlikely. Possible Neolithic kilns were found at Allt Chrisal (Gibson 1995). These seem to have been built of peat or turf, one of which held a large piece of a vessel (Branigan & Foster 1995).

The most likely method for firing pottery was in an open peat fire without any formal kiln structure, and there has been some debate about whether this could have occurred on a domestic hearth. A bonfire, with the pots inside, would have certainly been sufficient for firing. Oxidised pottery would have resulted from such a firing, being characteristically orange in colour. A bonfire could be turned into a simple clamp style kiln by throwing sand or mud onto the fire once it was lit, resulting in unoxidised pottery of greys and browns.

Fig. 7-4: Experimental pottery firing in peat ash (photo M Johnson)

The Beirgh sequence demonstrates a change in the preferred firing technique, from orange oxidised wares to grey and brown unoxidised wares. This could be due to a change in preference for the colour of a vessel, or a modification in the firing technique from an open fire to a clamped fire.

Whether the domestic hearth was used or not depends on the scale of manufacture; if single pots were made on an expedient basis as and when a new pot was required, then the firing of a single pot could take place on a domestic hearth. However, to fire a vessel, certain conditions need to prevail within the fire; the vessel cannot simply be thrown in and pulled out later and be a guaranteed success. The embers must have died down to a hot glow as a pot placed into too hot and flaming a fire will simply explode. The vessel must then be covered in fuel and can then be left for the fire to burn itself out, or tended by adding more fuel, but again the temperature must not rise too high or the vessel will overfire and distort. If several vessels are to be fired at the same time, lighting a fire away from the settlement would be the most sensible option, particularly with a peat fire, as a large peat bonfire produces considerable quantities of smoke and heat. If the fire is sealed with sand or earth that is damp, then the quantities of smoke will rise dramatically. If an area is habitually set aside for such activities, it may also contain evidence for other unpleasant activities such as metalworking or leather tanning.

> "Firing usually creates a nuisance and potters are often banished to the edge of the settlement. They may work at their homes on all stages of the process until the vessels are dry and then remove them from the residential area for firing." (Rye 1981: 9)

If a large number of pots were fired at the same time, then the firing is likely to have been an event, due to both the attractions and disadvantages of a bonfire outdoors. The anticipation and excitement surrounding the result of the firing would also be strong – whether a successful firing would be completed or whether the ashes of the fire would reveal a large quantity of shattered and twisted pots.

Ethnographic studies show a variety of firing techniques have been developed, dependent upon fuel, clay and desired finished effect such as colour. Unfortunately it has proved impossible to find any ethnographic references to peat-fired pottery, due to the limited distribution of this fuel. However, it is clear that quantities of fuel would not be a restricting influence in the Hebridean Iron Age. Peat is an efficient fuel and can reach high temperatures, and small shreds of it can also be used as kindling.

The absence of substantial numbers of wasters at Beirgh suggests that firings took place away from the settlement or that they were effectively tidied up and deposited away from the site. The lack of space on Beirgh's islet would also suggest that firings took place off-site. A small number of wasters have been identified at Beirgh. These are recognised as overfired sherds, fired to purple, pink or dark red, and with a vitrified appearance. Some spalling has also been recorded. Spalling occurs when a circular flake is blown off the outer surface of the pot. In severe cases, spalling will render the vessel unusable, but in some cases it is likely that it is superficial or aesthetic damage only and the vessel would still function adequately as a container.

Only nine vessels were identified which were overfired, cat. nos. 427, 947, 1784, 1785, 1948, 2196, 3572, 3937, 4820 and 4847. Two of these, 4820 and 4847, are also distorted. These sherds include body, neck, rim and base sherds, and four are decorated. They were found in a range of contexts from periods throughout the site's sequence. Although these are interpreted as wasters, it is acknowledged that overfiring of a sherd could occur during secondary use or deposition, for example a stray sherd ending up in the hearth. Two further possible wasters were found: cat. no. 1162 which is a sherd of no discernible shape, although its firing does not suggest a waster; and cat. no. 7. It is possible that no. 1162 is a spare piece of clay which ended up being fired by mistake.

7.1.4 Who were the potters?

While statements can be made regarding the technical aspects of production and some of the choices which have been made during the process, the most important question to ask if we are attempting to get closer to the social organisation of prehistoric societies is, who were the potters?

There are a few ethnographic sources to draw on for determining the organisation of pottery production and its socio-economic context within traditional societies. Many of these ethnographic studies indicate that potting is considered to be low status, or dirty due to the nature of the work, although this does not necessarily prevent the potters from contributing to or participating fully in society (e.g. in Mexican peasant societies, Foster 1965: 43).

Rice (1987) discusses the scale and mode of production, ranging from specialist artisans working in workshops and producing pots full-time for trade, to household production on a small scale for their own use. There are four models proposed for pottery production: household production; household industry; individual workshop industry; and nucleated workshops. However it is not easy to distinguish these on a prehistoric level as there is much variability in scale and mode and more of a continuum.

As has been discussed above, there is no evidence at Beirgh for kilns or wasters and firing is likely to have taken place off the site. The preparation of clays was likely to have taken place outside due to the potential mess caused and the need for plentiful water. Tools used in the manufacture of pottery may include hammerstones and grinding stones for preparing temper and clays, plinths for forming the vessel on or to act as rudimentary turntables for manipulating the vessel, wooden or stone paddles and anvils for beating the vessel walls, smooth pebbles for burnishing the vessel exterior, and implements of shell, wood, reed or bone for decorating the vessel. Drying vessels may have been kept inside the house and it is possible that they were made inside too, the required amount of clay for each pot being brought in as needed, along with water. The organisation of potting at Beirgh is likely to correspond to the household production level.

> "Simple household production…is likely to be archaeologically invisible or incapable of detailed quantitative investigation as a result of low output, informal organization, and lack of specialized tools and workspace" (Rice 1987: 181).

Household production is also likely to be conducted sporadically, responding to consumer needs on an individual basis, and indeed the potter may also be the consumer too (Rice 1987: 181).

Variability can be seen within the same vessel forms at Beirgh: for example Form 9 can be better made or worse made, rims can be made longer or shorter, with sharper or softer angles, or with the surfaces finished better or more poorly. Perhaps different members of the household make pots and have variable skills, or perhaps some are made inside the household and others are obtained from other communities. Highly skilled potters may still only produce pots intermittently but other households may obtain pots from them from time to time in return for another service or product.

> "assessments of full-time versus part-time manufacture, or seasonal versus year-round production, will very likely be beyond direct archaeological investigation. In general, the ethnographic literature indicates a high frequency of part-time and seasonal production cycles among potters, even in areas with many large, specialized workshops." (Rice 1987: 181).

The question of whether potters were men or women, adults or children, is one which is unanswerable. The presence of finger marks on the pots, some even with the finger print visible, does not aid us. A simple explanation that small fingerprints equal women does not hold up as a clay vessel shrinks during drying. While indicators may be there on the pots, the decoration perhaps sending us a message, this message cannot be read in our own time period.

7.2 Use

> "Generally overlooked in the analysis of pottery, however, is the fact that most pots were not made simply to be shaped, tempered, and decorated. Most pots are implements; they are made to be used as containers." (Braun 1983: 107)

Determining the function of prehistoric vessels is a particularly difficult task but is one of the most frequently asked questions of pottery. Braun (1983) states that a vessel's effectiveness for performing a particular function is conditioned by three things, which he terms the 'mechanical performance characteristics'. These are: the suitability of the vessel shape as a container; the suitability of the vessel shape for manipulating the contents; and the ability of the vessel to withstand physical stresses during its use without failure over a reasonable use-life. These characteristics provide avenues through which vessel function may be established. To these can be added vessel size and sooting patterns.

7.2.1 Vessel size

Vessel size can be closely linked to function. For example, there will be obvious size differences between a storage vessel and a drinking cup. Vessel size can also indicate the degree of specialisation in production (*cf.* Section 7.1.4). If we see the same types of pots repeatedly produced with a limited range of sizes, it suggests standardisation of production and may be carried out by specialist workers. Consequently this may suggest the presence of standardised quantities of foodstuffs or liquids, perhaps used when trading. If there is a large degree of variation within types and sizes it may suggest production on an *ad hoc* household scale.

Beginning from dissatisfaction with the way ceramic style-zones were still used in southern British Iron Age pottery, Woodward (1997) re-examined some of this material using rim diameters recorded in the excavation archives. She used a number of southern British Iron Age sites of roughly contemporary date to provide information on the variation in vessel size between phases, and to determine any regional variations in the assemblages.

She found significant differences between the assemblages both through time and across the region. For example, there were many small bowls in Phase 1 at Gussage All Saints, while there were many more large flat-rimmed storage jars in Phase 3: small bowl forms at Cadbury Castle got progressively larger and had a wider range of sizes over time. Variations across the region were found, including predominantly barrel jars in the early and middle phases of Cadbury Castle, and predominantly Saucepan-type pots in the middle phase at Danebury. She also found that there were size variations within the same pot type across the region. For example, in looking at the Glastonbury type jars found at South Cadbury and Meare East, she found the pots were generally larger at South Cadbury than at Meare East, with distinct preferences in fabric type too, shell tempered fabrics preferred at Cadbury and sandstone tempered fabrics at Meare.

Woodward (1997) presented a number of explanations for her results. She suggested that these differences could reflect different activities occurring at these sites which requires different types of pots. Alternatively, they could indicate variation in the modes of production and distribution of the pottery: particular potters producing a standard type, which is then circulated within a region or could reflect social or cultural preferences. This could reflect a decision, whether conscious or unconscious, that has been made as to the society's preferences in their pot types, which is not static but constantly changing. This could operate in a 'we're different from you', or 'we're all the same' kind of way, perhaps signalling group identity or individual social position at the household or community level.

At Beirgh there is a small but subtle change in vessel sizes over time, along with variations between vessel types. This may reflect a change in cooking or eating practices, a theme discussed in more detail in the next section.

7.2.2 Vessel shape

A study by PJ Arnold (1999) examined a particular type of vessel which is very common in lowland Mesoamerica during the Early Formative period (1500 – 900 BC). This vessel is known as a *tecomate*, and in shape it is very similar to holemouth jars (Form 1) in the Hebridean Iron Age. Although direct comparisons between these two very different periods and regions cannot, and should not, be pursued, it is perhaps useful to take on board the functional interpretations of the *tecomates* presented by Arnold.

Arnold describes the *tecomate* as a globular, neckless jar with a restricted orifice which is thickened at the rim, and has a round base (1999: 157). They were very common during the Early Formative period, although other vessel forms were present in smaller quantities, and they were produced in a range of sizes, with different surface finishes and decoration. They are also found in a range of contexts and have varied patterns of sooting. He suggests that they were "a multipurpose container whose design constituted a weighted compromise responding to several performance requirements" (1999: 158), and refutes the suggestion that a specific function or task can be applied to them.

He goes on to explain that pots form part of a tool kit and their shape therefore reflects their intended function, as the design of a vessel is constrained by its required performance characteristics (1999: 166); for example, a vessel required for pouring liquids may well have a spout. He goes on to discuss how the foodstuffs being cooked in a cooking pot may affect the design of that pot, a discussion which can be applied more widely in relation to holemouth jars.

There are a number of variables involved in cooking which may affect the cooking pot's design. The amount of liquid used in the food's preparation and the overall cooking time are important variables. If extended boiling is required then a vessel that is designed to be left on the fire for a long time must prevent excess loss of water to evaporation. A lid could be used, but this may cause the pot to boil over and put the fire out if it is not constantly watched (1999: 166). This leads Arnold on to examine the level of monitoring in place during cooking. A meal may be left simmering in the pot and people will dip into it when they are ready to eat (1999: 166). In this circumstance, the social ordering of mealtimes may be left open, and the western image of the family sitting down to eat together has little relevance.

Given these variables, Arnold suggests that the *tecomate* is ideally suited. It allows access to the contents by dipping in a bowl or spoon, while the small orifice and high incurving walls allow water to escape while preventing boiling over, and also controls the rate of water loss to prevent burning (1999: 166). He also suggests that a round base equates with a greater overall diversity of foodstuffs being prepared. However, a vessel shape such as this would be of little use for pouring liquids (Skibo & Blinman 1999: 178), as it would be difficult to control the pouring action and the liquid is likely to end up all over the vessel's exterior.

These characteristics can be applied to holemouth jars, leading to the suggestion that these vessels were used for lengthy simmering of liquid based meals. In the case of Form 2 vessel types, holemouth jars with an internal ledge, the comparison seems even more apt, as the extra ledge makes it even more difficult for the contents to boil over while also providing a seat for a lid, such as the circular discs of stone occasionally found at Beirgh. These vessels also have a slightly larger rim diameter (tends to cluster at the larger end of the spectrum of vessels, 25-35cm). It would be interesting to calculate the volume of these vessels, a task which is difficult where only parts of vessels are recovered. However, *tecomates* are described as having a range of volumes, from 0.5 to 20 litres (Arnold 1999: 163). Through a simple experiment, it has been determined that a cylindrical vessel with a diameter of 26cm and a height of 23cm holds 10 litres when filled to within a few cm of the brim. If one supposes that a portion comprised 500ml of food, presupposing that bread or some other carbohydrate was eaten with it, then a vessel containing that amount would potentially feed 20 people. Indeed, the cooking vessel used in the above experiment was used to feed about 18 people on fieldwork, with curry, pasta sauce or some such meal, including seconds!

> "the widespread occurrence and relative longevity of the design suggest that it was not a special purpose container." (1999: 165).

Arnold, however, interprets *tecomates* as being used by a non-agrarian people with residential mobility and suggests that they disappear with the advent of full sedentism and maize agriculture (1999: 158), a situation which cannot be applied to the Hebridean Iron Age.

This techno-functional approach to a particular style of pottery, although similar to holemouth jars, can also apply to other vessel forms in common usage during any time or period. As Arnold writes, "The fact that the specific *tecomate* form was adopted, and persisted for several hundred years in some contexts, indicates that it served well its users and should provide a hint as to its function" (1999: 164). As he makes clear (1999: 164-165), there is no reason to presuppose that a limited range of vessel types equates to specialised functions. Indeed design uniformity can suggest tool versatility, with a generalised design allowing for a variety of uses. A versatile tool will be a compromise rather than providing the single optimal design for a particular task. Everted rim jars have many of the same properties (globular shape, restricted orifice) but they also have advantages as a lid can be attached more easily (either sitting on the mouth or a fabric/leather lid being tied on) and liquids can be poured more easily due to the shape of the rim. The transition to flaring rim vessels, which allow pouring but have little advantage for attaching lids or for preventing the boiling over of contents, suggests there may have been a change in diet or in cooking methods.

A further variable which may affect a vessel's shape is mechanical and thermal stresses. Abrupt changes of angle in a vessel's profile (for example a sharp carination) are the weakest points (Braun 183: 125) and are more prone to stresses during heating or during handling. A globular vessel with a round base would be the strongest shape but this would not always be practical. The globular shape of many pot profiles at Beirgh in the Roundhouse and Cellular phases perhaps represent a response to this. The flat base, while being a point of weakness, allows greater vessel stability, a factor which may have held more importance. The flaring rim and bucket-shaped vessels of the Late Iron Age still have no angles but are less globular in overall shape and may reflect a change in cooking technique.

The thickness of a vessel's walls may be affected by three variables if cooking is part of the vessel's function. These are; resistance to sudden temperature changes (thermal shock resistance), the ease with which heat spreads through a vessel's walls (thermal diffusivity), and the ease with which heat transfers from the vessel walls to the vessel's contents (thermal conductivity) (Manson 1995). Thin-walled pots often perform better in response to thermal shock and are also better at conducting heat. Spalling can occur if the exterior of the vessel heats up much quicker than the interior. However, thick-walled vessels have greater mechanical strength, reducing their breakage load. Increasing the vessel's porosity also reduces thermal stresses and reduces potential cracking (Manson 1995).

The Beirgh assemblage seems to have been manufactured with little regard for the vessel's thermal capacity. The average sherd thickness increases slightly in the Cellular phase, but throughout all phases generally lies at between 6mm and 8mm. The maximum and minimum sherd thickness measured in each phase tends to have a wide variation rather than a restricted one, indicating non-conformity in construction. There is some variation visible between forms, Forms 7, 14 and 25 having an average sherd thickness of 6mm or less, and Forms 5, 10, 12, 13, 17, 24 and 28 having an average sherd thickness of over 8mm. However, again the recorded maximum and minimum sherd thickness for each form suggests a wide degree of variation between vessels. It is possible that an acceptable level of thermal stress was reached at thickness of between about 6-8mm and that any advantages or disadvantages achieved at thicknesses outwith that range were not sufficient to significantly affect a vessel's ability to function as intended.

The presence of inclusions also plays a part in the thermal properties of a vessel, and can act in tandem with wall thickness. (Braun 1983) Inclusions help to prevent the formation of, and the spread of, cracks in the vessel walls. Small inclusions are more effective in preventing cracks from forming, while larger inclusions are more effective in stopping cracks from spreading. So, a best case scenario would be to have a range of sizes of inclusions within the fabric. However, inclusions which are too large can weaken the strength of the vessel walls, and inclusions may heat up and expand at different rates to the clay body, again incurring thermal stresses (Braun 1983:123). So it seems that producing a fabric 'recipe' can be a fine balancing act to off-set one components disadvantages against another's advantages. The moderately gritted fabrics which are common throughout the Beirgh sequence perhaps represent the best all round solution. The addition of organic temper tends to reduce the durability of the pot compared to those tempered with sand (Orton *et al.* 1993: 221-22), perhaps explaining why the majority of vessels at Beirgh tend not to have organic inclusions, even though their increased porosity would help reduce cracking.

7.2.3 Eating and drinking

Having explored some of the issues relating to cooking, we can turn to the actual consumption of the cooked food. Of particular importance is the social context of eating. For example, who is it that sits down to dine together? Were there table manners? These issues are as important as the actual physical act of serving and eating a meal – for example does the dinner set comprise individual or communal plates and bowls? – but it is only the latter which can be approached through pottery analysis.

By analysing the proportions of variously sized vessels within an assemblage it may be possible to determine something of the eating habits of the time. Hawthorne (1996) examined African Red Slip ware (a late Roman fine ware widely exported). He showed that there was a change from small bowls and plates in the second century, to much larger vessels in the later third century, with the average vessel diameter increasing from 15cm to 50cm in both table wares and cooking pots. He suggests this represents a change in dining habits from the serving and eating of food in individual vessels (similar to the way we eat today), to communal eating whereby several people eat together from communal bowls (more typical of medieval Europe), and may be due to the rise of Christianity at that time. This is an area of study which has great potential to indicate the social set-up at meal times. The vessel size increase seen at Beirgh between the Cellular and Roundhouse phases, however, is not dramatic enough to suggest a wholesale alteration in dining habits, as illustrated by the African Red Slip ware.

Arthur Mitchell, a nineteenth century 'explorer' of the Outer Hebrides, wrote a book in 1880 called *The Past in the Present*, in which he recounts a story about obtaining some local pottery, known as craggans.

> "When I visited the island of Lewis in 1863, I had the advantage of the company of Captain FWL Thomas. In driving from Uig to the village of Barvas on the west coast, we passed a stone-breaker sitting at the roadside eating his dinner out of a vessel which struck us as remarkable. We found it, on closer examination, to be even a stranger thing than it seemed to us as we first caught sight of it. We waited till the stone-breaker had eaten its contents and then we carried it off; but we had acquired little information regarding its history because the stone-breaker and we had no language in common."
> (1880: 25)

This story offers a fascinating insight into the way in which pottery vessels were used for eating, and although a late nineteenth century custom cannot be directly applied to the Iron Age of the same region, it does allow us to consider further possibilities. The concept of the packed lunch is by no means a new one, and the ability to eat while away from the home performing tasks would have been crucial. Where the Cornish pasty was designed to provide a meal encased in pastry, it can be envisaged that lunch for a Hebridean farmer, fisherman, herder or someone otherwise away from home would be carried encased in a pottery vessel. An everted rimmed vessel would be convenient for the tying on of a leather or fabric lid and its globular body and restricted neck would help prevent the contents from slopping out.

The range of vessel sizes seen at Beirgh, ranging from about 9cm rim diameter to about 35cm, shows that, even though the majority were of the same basic shape in each phase (everted rims or flaring rims), a range of meal sizes could be catered for. Large vessels left on the fire used for providing meals on a 'serve-yourself' basis, could have their contents served out into smaller vessels. It is also possible that small servings were cooked in individual vessels, for example for guests arriving unexpectedly or for children who perhaps ate at different times to the adults, or that servings taken from a large pot could be re-heated on the fire in smaller vessels. A few simple calculations show that a cylindrical vessel with a diameter of 9cm and a height of 10cm holds 0.5 litres of liquid. Smaller vessels would also be suitable for drinking from. The range of vessel sizes at Beirgh perhaps indicates that standard sizes were not necessary for the cooking or consuming of foods and liquids and that a range was kept handy for versatility.

7.2.4 Samian Ware

A single sherd of Roman Samian pottery was found at Beirgh, small find no. 773, which had clearly been imported onto the site. The sherd has been identified as a sherd of a platter of Dragendorff's form 18 (see Fig. 7-5) or 18/31. In a British context this is generally dated to the mid-late 1st century AD for form 18 and to the last decade of the 1st century AD to the early decades of the 2nd century AD for form 18/31 (Webster 1996: 32-35). The Dragendorff forms 18, 18/31 and 31 form part of a continuum of development of the form, which starts out as a plate in the first century AD and slowly develops into a bowl by the mid 2nd century AD. The divisions between these forms can often be arbitrary and although the ratio of height to width can be used to determine whether it is a plate, platter or bowl (Webster 1996: 32-35), the Beirgh sherd is far too small to ascertain its form any more closely. However, the general characteristics of these forms are a bead lip, curved wall, a foot-ring, and the base interior rises slightly in the centre; they come in both plain and decorated varieties. Although centres of production can often be characterised by the fabrics and slips they produce (Webster 1996: 15), the Beirgh sherd is again too small to make any firm diagnosis about its origins.

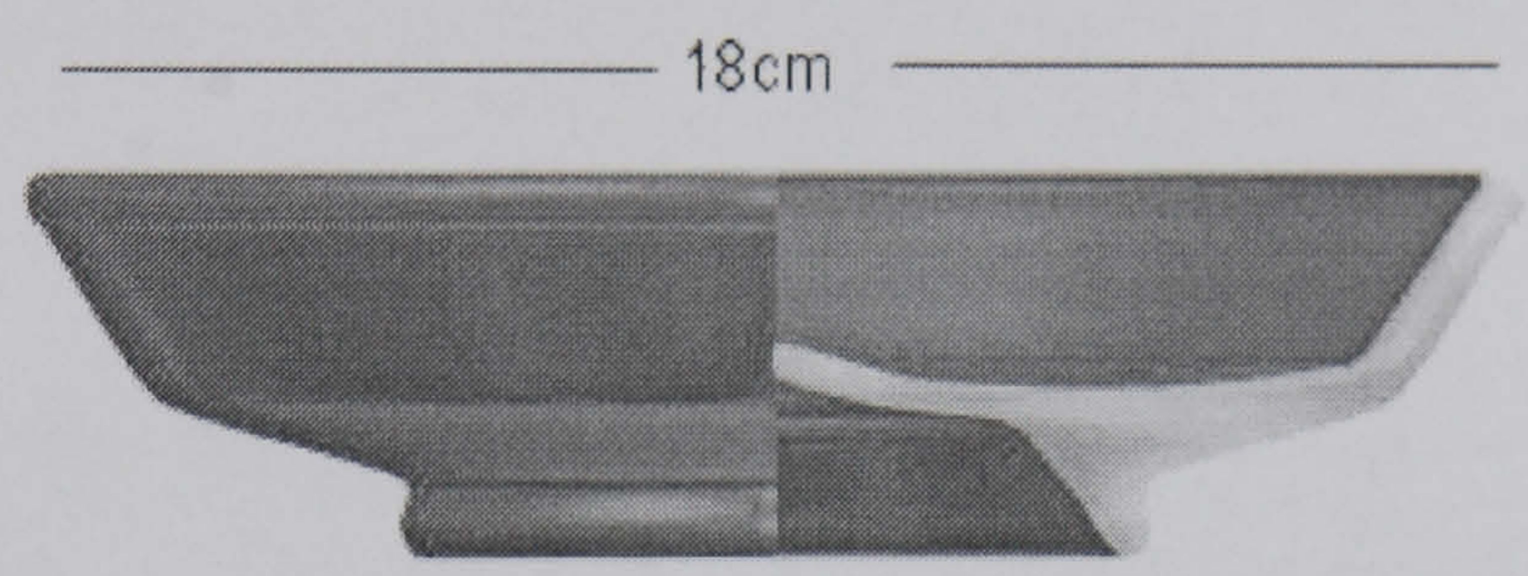


Fig. 7-5: Example of Dragendorff 18 (from http://www.newarchaeology.com)

The Beirgh sherd was recovered from context 426 in Phase 6. This context comprised the fill beneath the lowest level of paving which sealed the drain in the 'souterrain' passage outside the south wall of Cell 1a,. A radiocarbon date associated with this context (AA-23724) lies between the mid-third and mid-sixth centuries cal. AD (250-540 cal. AD at 2-sigma). This date probably relates to the construction and use of this feature during the late Cellular phase (Harding & Gilmour 2000: 63). The Samian sherd has clearly, then, been found in a context dating to at least a hundred years after its likely production date. For dating purposes it can therefore only be used as a *terminus post quem.*

How, then, do we account for this time lag between manufacture and deposition at Beirgh, particularly if we are uncomfortable with out-dated views of the Western

Isles being on the cultural periphery. The sherd, or indeed the whole pot, could of course have been kept at Beirgh for a number of decades, perhaps treasured as a curiosity or a special gift, perhaps with heirloom status. It is also possible that the sherd arrived at Beirgh not long before it was buried on the site, perhaps picked up on some journey or by a child playing, and kept because of its colour or some other properties or value. However, there is also the possibility that the sherd has been redeposited into this later context from earlier contemporaneous occupation, perhaps through the building works required for the construction of the drain and 'souterrain' passage.

The two important questions to arise however, are: 1) why does only a small sherd survive to be incorporated into the archaeological record? Which of course begs the follow-up question, was there ever a whole Samian Ware pot present at Beirgh?; and 2) in more general terms, why is there such a lack of Roman material in the Hebrides?

Significantly perhaps, the only other recorded fragment of Samian from Lewis is from nearby Traigh na Beirgh (Armit 1994). A single small fragment was also recovered at Bac Mhic Connain, North Uist (Callander 1932), and a further sherd from Dun Mor Vaul (MacKie 1974). There is a very small amount of other Roman material such as glass and metalwork noted on a number of sites in the Atlantic Province (Robertson 1970), as well as oddities such as the terracotta bale of goods found at Dun an Iardhard on Skye (Robertson 1970). But the overall picture is very much one in which only a tiny amount of Roman material is making its way to the Atlantic Province (see Table 7-1).

When this is compared with some of the lowland sites within the Roman sphere of influence, such as Buiston Crannog, Traprain Law, Fairy Knowe, and Edin's Hall, the comparison is all the more striking. Perhaps one of the reasons for the paucity of Roman material is the mechanism by which it travels and the level of contact with the Romanised world. However, this perhaps carries an unspoken assumption that the peoples of the further parts of Scotland were somehow less able to travel, less able to barter for goods, and therefore were also still 'barbarian' as they were outwith the Roman sphere. A society which can procure the massive amounts of timber necessary for building Atlantic Roundhouses, and which has a rich and diverse tradition of metalworking, bone-working and potting perhaps suggests an alternative: they were simply not interested in possessing or had no need for these Roman goods. Therefore, the small fragments which turn up may always have been small fragments, or even if whole were perhaps brought back as souvenirs of a trip, curious items to intrigue and please the family back home. For example, Roman pottery was highly specialised and the forms were of standardised manufacture. These different forms relate principally to the production, serving and consuming of food and drink: plates, jugs, mortaria, amphorae; in other words, table wares and specialist forms for storing and preparing food/drink. These forms are entirely absent from the domestic assemblages of pottery found in the Atlantic Province and instead a very homogenous assemblage is found, with little variation in form and some variation in size. It seems possible then that the table habits of these two societies were very different, and those in the Atlantic Province chose not to emulate the Romanised world and saw no use for these specialised pots, hence the lack of imported Roman pottery. This is substantiated by the apparent lack of other types of Roman goods, such as glass vessels and items of a more personal decorative nature such as brooches, pins and beads. Local forms of these latter items appear to have been entirely adequate for the population of the Atlantic Province, and those that are Roman were again probably imported or taken back as the occasional oddity. The re-use of some of these Roman items suggests a lack of awe for their origins; for example, a spindle whorl made from a sherd of a red coarseware jar was found at Dun Mor Vaul (MacKie 1974), and a re-used disc of Samian found at Dun Ardtreck, Skye, could also have been a spindle whorl.

Unfortunately, the picture is by no means straightforward, and there are a number of caveats which must be discussed. Firstly, we do not know the full range of vessels in use during eating and drinking or storing and preparing food. For example, wood, horn, leather and basketry could all have played a role, and would not survive unless in waterlogged conditions. MacKie suggested that a vessel of Dragendorff 38 was a local copy, while at Carn Liath, Sutherland, a silver cruciform brooch has been suggested to be a Roman form of local manufacture (Robertson 1970).

It is likely that the reaction to imported Roman goods was variable across the Atlantic region. However, whatever the reaction, the desire to own and use these objects was extremely low when compared with the local material culture, and it is unlikely to have been the case that Roman material was unavailable.

Table 7-1: Roman imports on Atlantic Scottish sites (adapted from Robertson 1970 with additions)

Site	Reference	Glass	Ceramics	Metalwork	Other	Date of items
Crosskirk Broch, Caithness	Robertson 1970	frag. Roman?	Dr 37			2nd century AD
Everley Broch, Caithness	Robertson 1970	amber hollow-rim bowl	Dr 29 barbotined beaker (Dech 72?)			1st century AD, 2nd century AD
Keiss Broch, Caithness	Robertson 1970		plain Samian Dr 37 Rhenish beaker			2nd century AD, 3rd century AD+
Road Broch, Keiss, Caithness	Robertson 1970		Dr 37			2nd century AD
Nybster Broch, Caithness	Robertson 1970		Dr 37			2nd century AD
Dun Telve	Robertson 1970		grey coarseware jar			?2nd century AD
East Broch, Burray, Orkney	Robertson 1970		plain Samian	bz pins Roman?		
Midhowe, Rousay, Orkney	Robertson 1970		plain Samian grey coarseware	bz patera		
Birsay, Okstrow, Orkney	Robertson 1970		Dr 45 (perforated for repair) red coarseware jar	bz tankard handle bz pins		2nd century/3rd century AD
Gurness, Orkney	Robertson 1970		amphora			2nd century AD
Carn Liath, Sutherland	Robertson 1970			silver cruciform brooch (native manufacture ?)		4th century AD+
Dun an Iardhard, Skye	Robertson 1970				terracotta bale of goods	
Dun Ardtreck, Skye	Robertson 1970	blue-green bottle	Dr 30 re-used Samian disc plain Samian coarseware		blue-green melon bead	1st-2nd century AD, 2nd century AD

Dun Mor Vaul, Tiree	Robertson 1970	pale green vessel painted bowl	Dr 18/31 or 31 Dr 33 Dr 37 Dr 38 imitation spindle whorl from red coarseware jar			2nd century AD, 2nd century/3rd century AD
Clickhimin, Shetland	Robertson 1970	frags colourless bowl rim				2nd century-3rd century AD
Vallay, North Uist	Robertson 1970		plain Samian			2nd century AD?
Kilphedir, South Uist	Robertson 1970			bz trumpet brooch		Late 2nd century AD
Traigh na Beirgh, Lewis	Robertson 1970		Dr 37			2nd century AD?
Sollas, North Uist	Campbell 1991			Fe ring, Roman seal ring?	Egyptian Blue pigment	1st century/2nd century AD
Dun Vulan, South Uist	Parker Pearson 1999	clear vessel glass, Roman?				
Bac Mhic Connain, North Uist	Callander 1932		Samian			
Beirgh, Lewis	Harding & Gilmour 2000		Dr 18 or Dr 18/31			1st century/2nd century AD

7.2.5 Decoration

The study of decoration on pots is a difficult and complex area. Prior to the 1970's, the recognition that decoration on ceramics varied was principally used to establish styles and types, which could then be used to determine archaeological cultures within a regional and chronological framework.

Theoretical developments in the 1970's led to what Schiffer termed "the recognition of material correlates of behaviour" (Nelson 1985). This meant that ceramic decoration came to be seen as a code, from which information could be gleaned if it was read and understood in the right way. It became possible to ask "questions about the kinds of cultural patterning that are reflected in or communicated by ceramic variation and how that patterning can be measured objectively." (Nelson 195: 1). As Nelson went on, "it is now apparent that both questions have many answers" (1985: 1). Unfortunately, this led to a situation where it was believed that cultural information was "literally fossilised in ceramic vessels" (Nelson 1985: 2). More recently, behavioural theory has attempted to unravel this situation by theorising on the communication or interaction that occurs between people and objects (Schiffer 1999a, 1999b), both during its production and during its use. It has also been suggested that the decoration on an object does not necessarily transmit information but instead is designed to transform the object so that it becomes suitable for fulfilling its allotted role (Sterner 1989, David *et al* 1988). In this latter case, a vessel may be decorated for a variety of purposes, for example to protect its contents or to protect its user. In this sense, decoration can become an intrinsic part of the vessel rather than a communication device. Sterner (1989) explains that, with regard to one ethnographic example in Cameroon at least, although the decoration is essential for the vessel to fulfil its role, the decoration does not even have to be visible – "that it exists and is known to exist is sufficient" (1989:458). This is interesting in light of some of the Beirgh decoration, especially channelling, where the decoration is so slight that one must look at the sherds in raking light for it to be visible.

This section will examine some of the issues involved with Beirgh decoration. It is my contention that this cultural information cannot easily, if at all, be read, and instead only the possible purpose of decoration or some of the rationale behind it might be explicable through comparisons with ethnographic examples. I hold that expecting archaeological ceramics to reveal detailed information on kinship, gender, religious beliefs or the organisation of families or communities is taking the evidence a step too far. This is not to deny that potters may have carried out the decoration of vessels with these issues in mind, but that reading the minds of prehistoric people is beyond the capacity of archaeological sherds.

Returning to Arnold and his *tecomates* study (1999), he refutes other common assumptions made in relation to pottery: that elaborately decorated pottery has a non-utilitarian function and that the time invested in decorating pots suggests specialised production (1999: 164-165). He states that decoration is a poor measure of utilitarian purpose (1999: 165) because design versatility is useful where the decoration on a pot is intended to be appropriate within a variety of different contexts. If a vessel has multiple social contexts in which the decoration must be appropriate, and if the vessel has multiple functional purposes, then it follows that the level of decoration required must anticipate the most 'decoration-demanding' context, even if it is never used in that context during its life. In other words, it is better to use an over-embellished pot in mundane contexts than make a serious social *faux pas* at an important event with a plain or poorly decorated pot. An assemblage does not need to have both decorated and plain vessels within it, equating to mundane and important events, but they can instead all be decorated equally and elaborately. As Arnold writes "this pattern of decoration …can be expected when vessel forms are few and ceramics operate in multiple social contexts, including cooking and serving." (1999: 168).

In the case of the *tecomates*, their decoration is often restricted to the rim, especially non-plastic decoration, as it is this area which is least likely to be negatively affected through being used over a fire. Arnold goes on to say that "plastic and texturing decorations are more likely to maintain their design integrity and visibility if the pot is used to cook over an open flame" (1999: 168). This perhaps explains the predominance of decoration on the upper part of vessels in the Beirgh assemblage, and the ubiquity of applied cordons.

It is a puzzle how the finely decorated vessels of the Early and Middle Iron Age changed into the plain pottery of the Late Iron Age. It cannot be as simple as the local potters 'forgetting' how to make pots, as technologically the pots are made using similar techniques and are sufficiently well fired. This transformation is seen to happen during Phase 5 at Beirgh, potentially dated to the seventh century AD (see Chapter 8, Section 8.1.5).

The explanation for this marked change perhaps lies in social spheres. The significance of pottery within the household or its use as a mechanism for transmitting social ideas perhaps alters, as a consequence of changing roles for given members of the community or the transference of these social expressions onto other artefact types, structures or practices. The absence of decoration seen in the Late Iron Age assemblages may be related to the adoption of new mediums for displaying the kinds of symbolic information previously reserved for pottery. As discussed above, material culture can carry a large amount of hidden and explicit symbolism. The nature of pottery allows it to be manipulated and so it is a medium suited for carrying decoration. This makes the absence of decoration on pottery from Late Iron Age sites particularly interesting.

Armit (1992: 144) has suggested that the change to plain pottery in the Late Iron Age is due to a change in the role of pottery, it assuming a more functional role rather than a decorative one. It is in this period that decorative metalwork becomes more visible in the archaeological record. Perhaps pottery's role as a medium for display is displaced by these objects, perhaps because metal became more readily available in this period or was newly considered appropriate for this form of display. It seems more likely that there was a change in the objects considered appropriate to carry decorative motifs. For example, the monumental roundhouse with elaborately decorated pots could be overtly displaying status, while during the Late Iron Age the element of display has changed and becomes focused instead on items of a more personal decorative nature, such as pins, brooches and combs. Pottery could be no longer considered an appropriate medium for expressing identity or status as seen through its decoration. There are examples of decorative metalwork in the Late Iron Age phases at Beirgh, including two penannular brooches, a set of tweezers, and a decorated pin. It is possible that this relates to wider political changes across the community, for example the advent of Christianity proscribing the uses and methods of symbolic culture.

Armit's comments on this pottery development reflect a more contextual approach to ceramic change: instead of invoking raiders and invaders, the origins of change are sought within the society itself, looking at other aspects of material culture and settlement evidence to see if explanations can be found. The possibility of pottery having an active role to play within Hebridean society during these periods, rather than being a passive reflection of society, is highlighted.

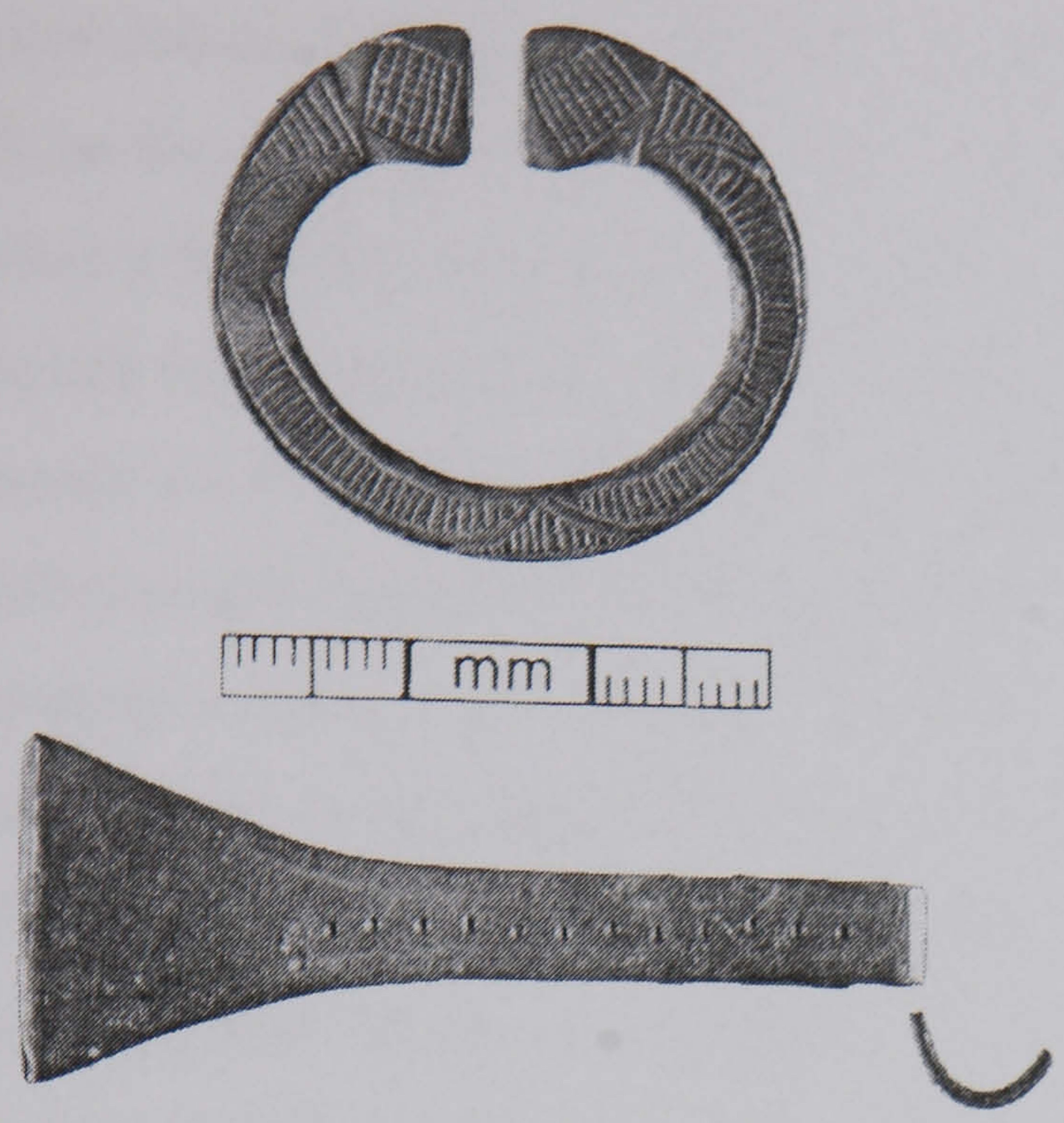


Fig. 7-6: Examples of decorated metalwork from Beirgh (from Harding & Gilmour 2000: backpiece)

Campbell (1991) offers an alternative explanation. He suggested that the radial symmetry seen in the arcades of triangular motifs on the pottery found at the Sollas wheelhouse represented the radial symmetry within the wheelhouse of the corbelled cells arranged around a central area. He contrasts this with the undecorated pottery of the Late Iron Age period coinciding with the abandonment of wheelhouses and roundhouses (1991: 155). This argument does not take into account the Cellular period of building or the fact that at Beirgh, for example, figure-of-eight houses are squashed inside the former broch. He also corresponds the distinction between an upper decorated zone and the lower undecorated zone of the pot's body with the "ritual under-floor deposits and the domestic above-floor occupation" (1991: 155), even though only a proportion of buildings of this period have evidently ritual deposits in the floors. He then goes on to suggest that, "the change to the restriction of decoration to the upper zone of vessels coincides with the construction of the wheelhouse" (1991: 155). However, what is known of earlier Iron Age ceramics in the Hebrides indicates that all-over decoration was never the norm.

Hingley (1992) seizes upon this idea, and suggests a "conceptual link between decorated ceramics and substantial houses with a radial partition of space" (1992, 15), as the abandonment of decorated pottery supposedly occurs at the end of the Atlantic Roundhouse period. However, pottery continues being decorated in the Middle Iron Age Cellular phase at Beirgh, and a small proportion of decorated vessels are found in the Late Iron Age, and in this context, the radial symmetry of cordons and channelled arches does not fit Hingley's theory. His theory also assumes a direct relationship between the way people viewed their world and the organisation of their domestic space with the way they liked to decorate their pots. This is an assumption which would be difficult to prove from archaeological evidence, and which seems to ignore a fundamental factor: that pots are generally circular and therefore the most obvious way to decorate them is radially.

The learning of motifs is important within a potting tradition for the continuation of designs. Graves' (1985) ethnographic work with the Kalinga suggested that decorative traits were shared by communities of interacting potters who learnt their craft at roughly the same time, and that designs were slow to change. He attributes rapid design change to socio-cultural developments such as rapid population loss or gain, or the loss of potters with a particular knowledge. These could come about because of the spread of infectious disease or aggression resulting in re-settlement, immigration or killings.

Perhaps an explanation such as that given by Stanislawski below could explain the apparent re-emergence of pottery decorated with dots along the top of the rim, especially as the earliest phase of occupation is unknown at present but was certainly the focus of occupation for a long time. It may be that early material found in middens nearby prompted a return, in only limited amounts, to such a motif.

> "...at least six of the women interviewed from both Hopi and Tewa villages said that they collected ancient potsherds from local ruins...They then copied the designs of these potsherds directly onto their own pottery, or first into a book, and then onto their new pottery pieces...In addition, some of the women also excavated for complete pots in the nearby ruins and used these as design guides." (Stanislawski 1969, quoted in Schiffer 1987: 118).

7.2.5.1 Animal representations

An unusual and distinctive aspect of Hebridean Iron Age pottery is the presence in small numbers of representations of animals drawn on pots. Although no definite animal representations were found at Beirgh, this decorative form will be discussed here. It remains possible that fragments of incised decoration - particularly of curvilinear lines or short straight lines - on sherds from Beirgh are remnants of animal drawings where the overall motif could not be determined.

The known examples of animal representations on pottery are listed in the table below. They are all held in the National Museums of Scotland except the sherd from Dun Mor Vaul. It seems likely that all of the animals illustrated are red deer.

Table 7-2: Animal representations on pottery in the Hebrides

Site	Description	Reference
Galson, Lewis	Fragments of two probable deer: one has just the head with two straight horns, the other is a leg and an antler.	NMS acc. no. HR 852.
Kilphedir, South Uist	Two deer are visible, one comprising the head and neck, the other the neck, body and back legs. They are both facing the same direction.	NMS acc. no. GS 67. Published: Lethbridge 1952.
Bragar, Lewis	The body and neck of an animal with part of the foreleg. Likely to be a deer. The body is decorated with hatched lines and curvilinear patterns.	NMS acc. no. HR 646.
Dun Borbaidh, Coll	Parts of two animals are visible, with vertical incised lines separating two of them from the third. They appear to be facing the same direction. One consists of the head and neck and part of the body, the other comprises only the hindquarters. They are apparently deer.	NMS acc. no. HD 325-6-7. Published: Beveridge 1903.
Dun Mor Vaul, Tiree	The body and legs of an animal with the head missing.	Published: MacKie 1974: 159 and Plate XII.D

The only paper to have ever addressed this issue was written by Charles Thomas in 1963. He suggested at that time that all of the sherds came from the same "cultural background" (1963: 16), and suggested that the decoration in each case may have formed a continuous frieze of animals around the rim of the pots. He dates them to "the 'late' or 'Roman' Iron Age....commencing only slightly before the 1st century

AD and which…was culturally exhausted rather before the arrival of the Norse settlers in the late 8th century." (1963:16). His dating and understanding of the Atlantic Late Iron Age province comes from a wholly diffusionistic, culture-historical perspective (1963: 16-20), which can be forgiven given the period in which Thomas wrote. Thomas goes on to illustrate a number of other animal representations in different media throughout the Iron Age, his thesis being that these Hebridean stags "do not stand, trot or graze wholly on their own." (1963: 20). These items include a handled cup or lamp from Binney Craig, West Lothian, decorated with a grazing pony which he links stylistically to the Hebridean deer.

Thomas interprets the Hebridean illustrations as part of a wider phenomenon, which began in the Celtic La Tène societies north of the Alps between the sixth and fourth centuries BC, "drawn from the world of the horsemen-pastoralists" (1963:56). He sees this art style spreading from La Tène I to northern and north-eastern France and there to the British Iron Age B culture in the south of England in the third century BC. This culture and its associated art style was then transmitted to southern and western Scotland a century or so later, where it manifested itself in drawings of animals on pots, rock surfaces and other media. In the late first century AD it became concentrated in the north-east of Scotland, developing later into Pictish art styles. The British examples are considered to be a more conservative rendering of this style, being largely two-dimensional inscriptions rather than elaborated plastic decoration on metalwork, which he refers to as a 'peasant' art (1963: 57-58). He even expresses a possible link to tattoo designs.

MacKie describes the deer decorated sherds at Dun Mor Vaul as "oddities", reflecting "casual contact with a new idea in the third century AD, perhaps this time from Pictland." (MacKie 1974: 159).

Stylistically, the animals from the Hebrides are very similar to each other, with the exception of the internal decoration of the Bragar deer, but the presence of only five known examples in an area where pottery assemblages can be vast suggests that this was an uncommon decorative form. Its presence on four different islands may hint at this being a wider phenomenon rather than it being a localised occurrence restricted to one island or area of the Hebrides. A possible explanation for these drawings is the importance of red deer in the economy of parts of the Hebridean Iron Age. The southern isles of the Outer Hebrides produce very little red deer bone in the animal bone assemblages, although antler is used (Mulville 1999), whereas sites on Lewis have a high proportion of red deer bones in assemblages (Thoms 2003). It has been suggested that on the southern isles red deer were exploited mainly for their antler (Mulville 1999) while on the northern islands red deer were an important component of the diet (Thoms 2003). Furthermore, the central hearth within the wheelhouse at A'Cheardach Bheag on South Uist (Fairhurst 1971) was surrounded by a kerb of upturned deer mandibles, suggesting deer held a more significant role in Hebridean Iron Age society and were perhaps considered to be special in some way. Mulville asks:

> "Why they [red deer] were appropriate as food on some sites and not apparently on others is not explicable in environmental terms. It may be that only certain groups had rights over the eating of deer or that they had to be consumed away from certain settlements. Ross (1967) brings together evidence that deer were considered in the Iron Age to be capable of shape-shifting, forming a liminal category between the living and the supernatural worlds. The sparse iconography of the Hebrides in the Middle Iron Age is wholly restricted to the depiction of deer and thus we should be prepared to accept that their exploitation was more than a matter of utility." (1999:273)

An interesting addition to this discussion was the recovery of a wooden object from Dun Bharabhat (Harding & Dixon 2000: 74, Fig. 34.1), located a little to the west of Beirgh. This object has a carved animal head, perhaps on the end of a handle as the head projects from a shaft. It measures about 10cm long. It has a snout-like nose on an elongated head, with the eyes and nostrils defined, and two stumpy ears on the top of its head. Some incised marks along its neck and forehead suggest hair. This animal is perhaps more dog-like than deer-like, but demonstrates that animal, or indeed human, representations may have been more common but simply do not survive.

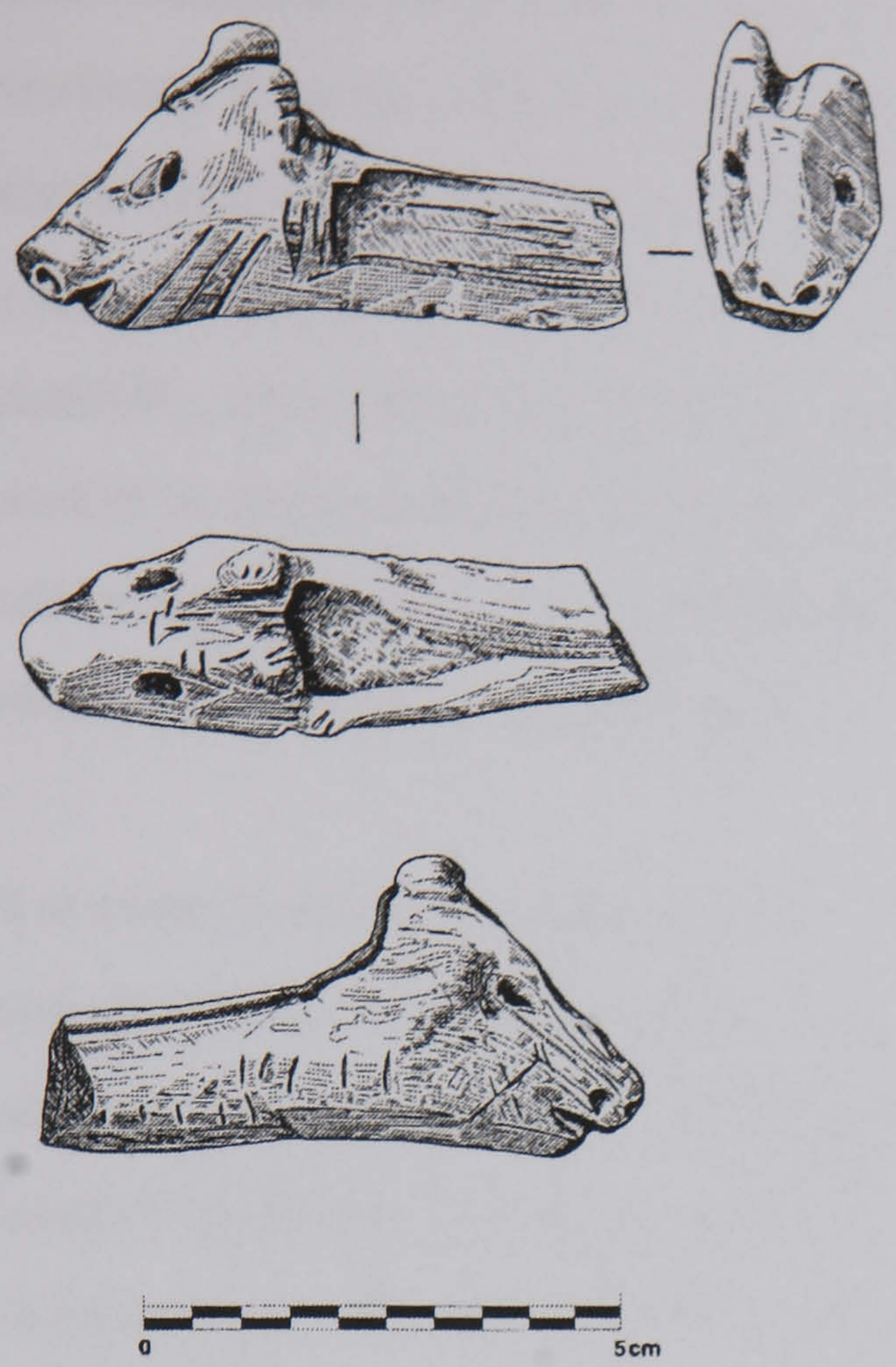


Fig. 7-7: Wooden animal representation from Dun Bharabhat (from Harding & Dixon 2000: 74)

7.3 Discard

An estimation of the life-span of pots has been attempted through comparison with ethnographic evidence. For example, Foster's (1960) study of Mexican potters at Tzintzuntzan discovered that cooking pots in daily use lasted about a year while storage pots lasted longer, and that many of the breakages were caused by domestic animals such as chickens, dogs and pigs. Another study by Longacre (1985) of the Kalinga in the Philippines also suggested that dogs were responsible for about 10% of all breakages, while Solheim (1984) found that children played a large part in breakages.

Foster suggested five factors which would influence breakage rates: the strength of the vessels; the vessel's function; the method of use of the pot; the context of use of the pot; and the cost of the vessel. It should be expected that pots in constant use and which may be carried or moved a lot would have the highest chance of breaking. Contact with fire would also reduce a pot's potential life-span. Pots which are set somewhere out of the way and which are never used are more likely to have a lengthy life-span. The high value of a pot may result in it being handled more carefully, and also if the owner of a pot is not a potter and therefore replacing pots would be more difficult or costly. This pattern of breakage would result in some vessel types being over-represented in the archaeological record as they are broken more often (Orton *et al.* 1993: 208).

It is clear from the flow chart (Fig. 7-3) that the breakage of a vessel may not be the end of its useful life. There are a variety of ways in which a broken pot can be put to use, such as grog, as saucers or other small containers, as spindle whorls or moulds. Large sherds may also be re-used in the firing of vessels, placed over the top of the vessels to prevent contact with the fuel (Rice 1987: 164) or between pots to ensure good air flow.

Solheim (1984) found during ethnographic work in Thailand that "unusable sherds are generally left where they fall, unless they are large and/or sharp, in which case they tend to be moved to infrequently used areas where they will not constitute a danger to bare feet." (1984: 101). He also found that sherds moved around as a result of children's games, flooding and animal activities.

Ultimately, the sherds or pots will be discarded permanently, when the vessel is perceived as having come to the end of its useful life, or when it becomes accidentally lost or buried as part of a ritual deposit. It is then that the material becomes incorporated into the archaeological record. Before its retrieval, the sherds may undergo some post-depositional change or disturbance, causing abrasion, chemical changes or further breakage. The range of possible influences on pottery after the end of its useful life is considered with regard to Beirgh in the next section.

7.3.1 Discard practices at Beirgh

One of the main concerns of this section is whether the discard practices at Beirgh undermine the pottery sequence, or whether the sequence is solid. This all depends on where refuse was discarded and whether there was an opportunity for old refuse to be re-incorporated into the settlement at a later date. Although many of the contexts contained pottery, the lack of cross-joins and of substantial portions or whole vessels suggests that a lot of the refuse is discarded off site, perhaps into the loch or onto the surrounding machair.

It would appear that at the end of at least two phases a foundation layer was laid down across the whole of the site, perhaps as a means of levelling the floor surface before new construction work began. This is more marked at the end of the roundhouse phase (Phase 10) with context 604, which is a compact layer of peat, apparently transported to the site and laid down perhaps in blocks, completely concealing the previous deposits (Harding & Gilmour: 42). There is also a peaty floor level, which seems to be consistent across the whole site again, between Phases 1 and 2 (Harding & Gilmour 2000: 20). In the former case, there may also be a ritual element to the deposit, as the style of architecture changes dramatically from the secondary roundhouse to cellular buildings. These layers seem to be intact with no features dug into them, and therefore one may expect that whatever lay beneath remained sealed beneath once this layer was laid. This has implications for the movement of artefacts between the phases; presumably everything sealed by these layers remains undisturbed for the remainder of the site's occupation. However, this does not account for the potential movement of artefacts deposited elsewhere on or near the site; for example, midden material stored off-site may be brought back onto the site to provide wall core material. Even though the site is a small island and appears to have well-defined edges in the form of the CAR walls, one should not discount the possibility of material moving around and onto the site, as well as accumulating on the site and moving off it.

However, in-between these sealing layers there may be disturbance. The processes of restructuring the buildings will have caused disturbance, through the demolition or partial dismantling of structures, modifications and repairs, blocking, revetting, re-use and changes in use of structures.

The biggest difficulty lies in not knowing the origin of individual deposits. Most significantly, it is not clear how and where rubbish is disposed of, and how these deposits, filled with artefacts, bone and other materials, came to be on the site. Without imposing modern values about dirt and rubbish onto prehistoric society, it seems unlikely that the inhabitants waded around in ankle-deep squalor and rotting matter all of the time. Certainly the lack of whole pottery vessels in the assemblage suggests that rubbish was moving around the site rather than being left to decay *in situ*, and without extensive excavation of the surrounding area and loch bed, we will not know where rubbish dumps may have been located. It must be remembered that the remains we recover as archaeologists are not a representative sample of the activities and objects in use at a given snapshot of time. This may seem an elementary statement, but it is of great significance for how we can interpret any artefactual material on a site. We are often effectively one step behind the actual societal or structural changes occurring on a site as the evidence we see is the remnants, the unwanted material left behind and no longer needed. This is complicated at Beirgh by the potential for considerable re-working of these deposits.

The most problematic types of deposit on the site are those classed as floors, wall fills, cell fills and middens as the origins of many of these deposits are unclear. It is possible that midden material is re-used to provide building material, for example, for levelling-up floors and for wall core material. There are many other ways in which rubbish can be re-worked, the more prosaic being recycling, middening on fields, scavenging, food scraps for compost or pig feed, and children playing, and pottery will inevitably get caught up in these cycles.

Despite the potential for movement of discarded material, I would contend that the Beirgh sequence sees little mixing. The very nature of the formation of the site, new structures being built on top of old producing a tier-like effect, and the waterlogging of the underlying phases, makes it likely that once material from a particular phase was sealed then it remained sealed. This is taken to extremes with the deposition of peat floors between phases, at the end of Phase 10 and Phase 2.

The presence of special deposits of pottery cannot be discounted, which may have an impact upon how pottery reaches its final resting place. At Cnip, a possible foundation deposit was recorded, a complete vessel appearing to have been placed behind the wall of wheelhouse 2. This vessel was a small jar with a short everted rim and an applied cordon at its shoulder (Armit 1988b). A number of other wheelhouses have recorded special deposits within pits in the floors, including Sollas (1991). There are no recorded instances of special deposits of pottery at Beirgh or Bharabhat. Figure 7-3 shows that some of these types of deposit, however, may result in the vessel being deposited off the site, for example in human burials such as Galson, Lewis (Johnson in Neighbour *et al* 2000).

7.3.2 The Galleries

The contents of the galleries also have unusual depositional processes occurring. One of the hopes when excavation began was that there would be *in situ* primary material remaining in the galleries, which would be sealed and undisturbed as the water level rose and the galleries became unusable. Unfortunately, this proved not to be the case.

> "In effect, therefore, the occupants of the Roundhouse re-used the ground floor galleries and cells of the Atlantic roundhouse wherever this was practical. The hope expressed in interim reports, therefore, that these may have remained sealed as time-capsules of the Atlantic roundhouse period, uncontaminated by secondary occupation, has proved invalid, though the primary deposits may yet have been conserved by the same factors which have yielded distinct stratigraphic horizons for the later phases."
> (Harding & Gilmour 2000: 50-51)

It is obvious that the ground floor galleries became unusable earliest in the life of the settlement and that as the necessary level for occupation rose, access through the interior doors into these galleries became impossible. At precisely what point the residents gave up on using the ground floor galleries is unclear, but at least some were still in use during the secondary Roundhouse phase (Phase 10), and so may have happened early in the Cellular Phase. One would expect that with the final closing of these galleries, anything useful or valuable that was being stored or used in them would have been removed prior to blocking so that the deposits would consist of rubbish, or forgotten or unwanted items. Unfortunately, as yet most of these galleries have not been excavated due to the safety of access - these galleries are still largely roofed and waterlogged, but are generally not completely filled with deposits. Therefore, any material within these galleries should relate to earlier phases of occupation of the settlement, and indeed some excavation of early deposits (Phase 11) has occurred within Gallery 5.

The majority of the unstratified pottery recovered from gallery contexts came from the first floor gallery. These galleries would have been accessible to the islet's inhabitants for much longer than the ground floor galleries. It is possible that they eventually went out of use because tumbled stone from the CAR walls filled them in. During their period of use, these galleries may well have proved useful for storage, or for rubbish disposal. Especially with this latter option, the slight separation of the galleries from the main living area would have been an advantage. Their use for rubbish disposal may explain the vast quantity of pottery recovered and the wide variety of types.

7.4 Summary

> "Changes in the quantities, kinds, and attributes of pottery do not occur at random. They are responses to changes within the society that impinge on individual potters as well as on the consumers or users of the ceramic products. These social and economic changes may come from within the society or may arise from the relation between the traditional society and the broader national or international community." (Rice 1987: 456).

A number of ethnographic studies have been undertaken with the aim of studying traditional potters and potting, in particular their organisation, the status of the potter, the standards of craftsmanship, the range of variation, and the processes that contribute to change. Foster's (1965) study of contemporary Mexican peasant societies suggested that potters were particularly conservative amongst the population, and would not adopt changes such as electricity or toilets. Potting was done within the family and was generally an inherited skill, with 60% of people relying economically to some extent on potting. Foster concluded that the reason for this conservatism was that the potters did not want to forsake those established methods which they knew worked, in case they lost out economically. If you do not stick to tried and tested methods then you may lose a whole kiln full of pots, and thus lose the time, energy and capital invested in them. Conservatism would also be important if selling a product was important: sticking to the same popular shapes would ensure economic security, rather than chancing a new form. It has also been pointed out (van der Waals 1965) that learning a new technique (in his example it is wheel thrown pottery) would cause a temporary drop in the scale of production as the new technique was learned and the potter became skilled with it. Van der Waals (1965) suggests an economic shock may force change in technique, which could also apply to style. Foster (1965) goes on to acknowledge that within a society there would always be an individual who was prepared to take risks and innovate, who he terms "potter-artists", and it is these people who are more interested in the aesthetics of the pottery and in creative expression rather than simply doing a job.

Hulthén (1976) takes a similar approach in relation to Neolithic pottery. His premise is that potting as a skill requires many years of training and so is not adopted quickly by individuals. Once learnt, potters remain dependent upon the methods they know, and although they may be open to modifications of technique or adoption of new elements, they would usually continue to work within their known parameters. He states that ethnographic studies confirm this premise, and show that external influence and individual innovation can cause alteration of only one or so parameters usually, leaving the tradition on the whole the same. He assumes that prehistoric potters would have had the same attitudes. Therefore, he concludes that sudden change can only come about through "an inflow of vessels and/or potters from other areas. It is very unlikely that a potter would reject his individual craft, and simultaneously perfectly master a completely new technique." (1976: 120).

Other reasons for changes in the methods or scale of production can be fuel shortages, clay shortages, the exhausting of a clay source and the use of a new one with different properties, and the acceptance of innovation. With regard to cooking and serving vessels, the stability of diet is also a factor (Rice 1987: 463). Customary motor patterns, like those associated with the repeated production of a particular kind of pot, are particularly resistant to change (Rice 1987: 462). An apt metaphor is that it would be like learning to write with the other hand. Unfamiliar new movements compared to practised movements one would not even have to think about would be a strong factor against change.

It seems likely that decoration is the most likely to change, because it can carry visible symbolic content and is subject to the fashions and preferences of both potters and consumers. Technology and performance characteristics are more resistant to change because they are more likely to relate to the clay sources used, the established motor functions of the potter, the expected uses of the pottery, and diet (cooking and serving) rather than symbolic content. Vessel shape is also resistant to change because its shape reflects its function, through factors such as ease of use (pouring, carrying), the forming methods used, and the clay quality.

These factors - motor habits, diet, clay resources, custom – "all establish a cultural context of continuity that fosters a corresponding continuity of styles in the utilitarian vessels produced" (Rice 1987: 464). Even when subjected to extreme societal upheaval "the availability of new economic practices is not sufficient cause for their adoption even if they are potentially more efficient and productive. Even severe environmental stress may not always have been sufficient to force an abandonment of traditional practices." (Armit & Finlayson 1995: 268).

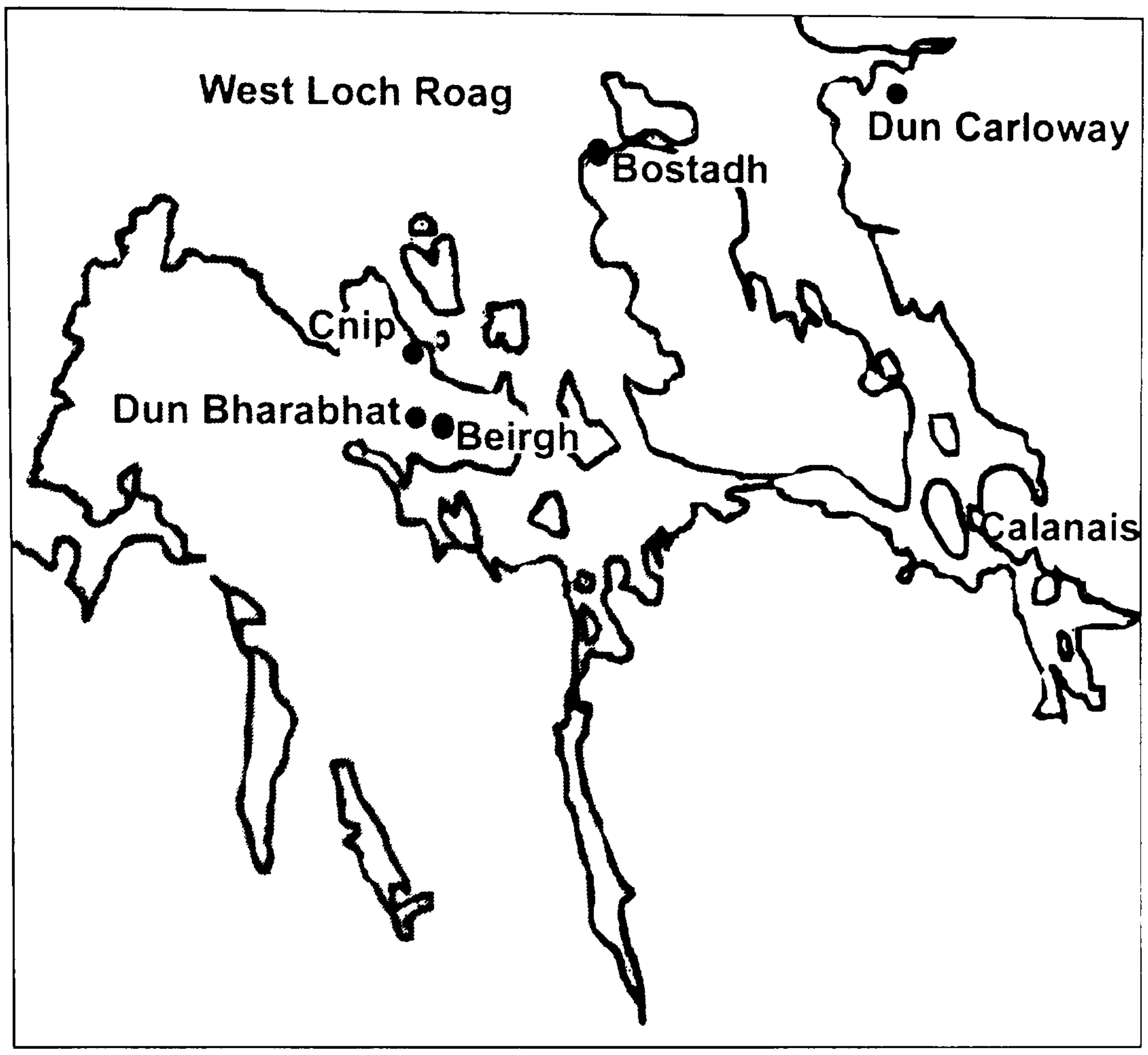
8. The Pottery Sequence in Context

One of the aims of this thesis was to provide a sequence of pottery for the Hebridean Iron Age. To this end, it is necessary to review other excavated assemblages from this period to provide comparisons with the Beirgh assemblage. This chapter first reviews the excavated evidence from Bhaltos and Great Bernera in order to build a west Lewis micro-sequence. Then, using other published assemblages from throughout the Outer Hebrides, a wider pottery sequence is established. The aim is to find parallels for the assemblage in order to aid dating, to recognise imports or influences, and to place Beirgh into its wider context.

8.1 The local context

West Lewis, and specifically the Bhaltos peninsula upon which Loch na Beirgh is situated, is an area rich in the remains of Iron Age settlement and a number of sites here have been excavated. The sites to be examined in this section are Dun Bharabhat, Cnip and Bostadh (see Fig. 8-1). These sites will provide a micro-regional setting for the results from Beirgh. Dun Bharabhat was published in 2000 (Harding & Dixon) and here reference is made only to the published assemblage. Ann MacSween provided the unpublished specialist report on the pottery from Cnip (with kind permission of Ian Armit). The Bostadh assemblage was examined by the present author as a contribution to the final excavation report, which is currently in preparation (Neighbour in preparation).

Figure 8-1: Location map of west Lewis showing some of the sites mentioned



8.1.1 Dun Bharabhat

One of the most important sites for comparisons with Beirgh is Dun Bharabhat, situated in Loch Bharabhat half a kilometre to the west of Beirgh within the upland rocky region which borders the machair. Dun Bharabhat is a Complex Atlantic Roundhouse on an islet with a causeway, but the overall diameter of the building is much smaller than Beirgh (Harding & Dixon 2000).

The land-based excavations produced two phases (Harding & Dixon 2000): the Main or Primary Phase consisted of an oval Complex Atlantic Roundhouse, with at least three galleries and an entrance on the east. This structure appears to have collapsed due to unstable foundations. The Secondary Phase of occupation consisted of a small rectangular cell inserted into the galleries adjacent to the roundhouse entrance and re-use of the interior space, presumably with a reduced wall height and no upper floor. This phase was destroyed by fire. The Late Secondary Phase is characterised by the presence of external features, including a residual structure, a wall, paving and a hearth. There is evidence of deposits associated with a pre-Atlantic Roundhouse Phase, which were not fully excavated. The underwater excavations revealed structures including a platform, a circular structure with two phases, a small fenced structure/pen, a stone trough, and a further structure with a hearth. The earlier structures appear to have collapsed or subsided into the loch, until latterly a platform was constructed to provide a solid base.

The radiocarbon dates indicate occupation of the roundhouse in the second half of the first millennium BC, with secondary occupation stretching into the first half of the first millennium AD.

Table 8-1: Dun Bharabhat radiocarbon dates (after Harding & Dixon 2000: 26)

Lab Code	Context	bp	2s Cal.	Phase
GU-2434	162B	2010 ± 50	170BC-AD90	Secondary occupation destruction
GU-2435	128B	2100 ± 50	360-290BC	Secondary occupation destruction
GU-2436	158	2550 ± 50	820-520BC	Primary or pre-dun occupation
GU-2437	1028	1810 ± 110	100BC-AD450	Upper underwater, structure 3
GU-2438	1028	1460 ± 130	AD250-900	Upper underwater, structure 3

Two dates (GU-2434 and GU-2435) are considered to come from layers representing the burning of a wooden floor or roof of the secondary roundhouse.

These dates suggest that occupation at Bharabhat might overlap with the earlier phases at Beirgh, as well as covering the period not yet excavated at Beirgh, the primary phases of the CAR. Thus, Bharabhat potentially provides an extension of the excavated Beirgh sequence into the first millennium BC, associated with a primary roundhouse phase. Although at Bharabhat there are only a small number of dates on which this interpretation is based, these dates are accepted for the purposes of this thesis as providing the only available dating evidence for the occupation of a CAR on west Lewis.

The published analysis of the Bharabhat pottery assemblage is not considered within a stratigraphic framework, although context numbers are given (Harding &

Dixon 2000: 33-46, 83-96). Rather, the assemblage is divided into types which are individually described. These types comprise: medium-large storage jars; coarse ware jars with applied cable cordon; everted rim jars; hole-mouth or incurving-rim jars; decorated pottery of various forms; jars with inturned, bevelled rims; bases with impressed dimples; and coarse ware cups. Their principal characteristics are provided in the table below and concordance provided for the types identified at Beirgh.

Table 8-2: Concordance table of pottery from Dun Bharabhat's land-based excavations compared with the Beirgh assemblage

Dun Bharabhat Type	No. of vessels	Beirgh Equivalent		
		Form	Decoration	Other
Medium large storage jars – divided into medium-fine ware and medium-coarse ware.	2	4		Wavy cordon with impressed chevron motif above forming triangles.
Coarse ware jars with applied cable cordon	17	29	App.A.i, AppA.ii, App.C.i, App.C.ii, App.F, App.H	
Everted rim jars	5	9	App.A.i, Inc.E.i, Imp.H.ii.E, Imp.H.v.E	Fine applied twisted cordon
Hole-mouth or incurving-rim jars	33	1	Imp.H.ii, Imp.H.iii, Imp.H.v, Inc.C.i-iii, Inc.T, Inc.O.i, Inc.N.iv, Inc.L.i, Inc.K.ii, Inc.R, Imp.A.v, Imp.E, Imp.A.i, App.L	Triple row of stabs below rim. Vertical rows of stabs alternated with vertical incised lines. Ring-pin impressions.
Decorated pottery of various forms	19	Various, inc. 6, 7, 9	Inc.N.iv, Inc.N.iii, Imp.H.iv, Inc.L.ii, Inc.K.i, Inc.M.iv, Inc.L.i, Inc.C.i, Inc.F.i, Inc.G, Inc.C.iii, Inc.D.i, Imp.E, Inc.M.ii, Inc.M.v, Inc.M.iv, Inc.A.ii, Inc.C.iii, App.H, App.G	Infilled cross. Ring-pin impressions. Comb-impressed cordon.
Jars with inturned, bevelled rims	4	2, 5	Imp.G.iv	
Bases with impressed dimples	5	N/A	Imp.G.i-iii	
Coarse ware cups	1	N/A	N/A	

Table 8-3: Concordance table of pottery from Dun Bharabhat's underwater excavations compared with the Beirgh assemblage

Dun Bharabhat Type	No. of vessels	Beirgh Equivalent		
		Form	Decoration	Other
Everted rim jars	24	9	App.A.i, Inc.M.iv, Inc.M.ix, Inc.G, Inc.N.ii, Imp.H.ii, Inc.D.i, Inc.H, Inc.N.iv, Inc.N.i, Inc.M.ii, Imp.E	Shell impressions. Random dots. Dot and line filled double zigzags. Criss-crossing ladders.
Hole-mouth or incurving-rim jars	24	1	Imp.H.ii, Imp.H.iii, Imp.H.v, Inc.N.i, Inc.N.ii, Inc.N.iii, Imp.A.v, Inc.C.i, Inc.C.iii	Triple row of stabs. Triple row of chevrons. Grid pattern. Scallop pattern of curved lines. Shell impressions, double row.
Coarse ware jars with applied cable cordon	6	N/A	App.A.i, App.C.i, App.H	
Bases	16	23, 24, 25, 26	Imp.G.i	
Decorated – various forms	25	29	App.A.i, App.C.i, App.H, Inc.F.i, Inc.J.iii, Inc.M.ii, Inc.M.iii, Inc.H, Inc.F.ii, Imp.E	Double incised cordon. Cross inside a rough square. Random parallel and curvilinear lines. Zigzag double ladder, infilled. Curls doubling back.

It is clear that the pottery assemblage at Bharabhat has marked differences with that from the Cellular and Late Iron Age phases at Beirgh, but considerable similarities with the Roundhouse and NE Extension Lower phases in terms of form and decoration.

The published assemblage shows decorative motifs directly parallel with those at Beirgh, such as feathers, ladders, triangles, and chevrons. It is apparent that the vessels, particularly the everted rim jars and holemouth jars, are quite extensively decorated with a rich variety and combination of motifs. Cordons are present, of the same types as at Beirgh along with some more unusual types, but they are not the focus of decoration. Instead, the area between the cordon or shoulder and the neck of the everted rim jars is heavily decorated with incised and impressed motifs, often arranged in radial panels. The upper part of the vessel is also decorated on holemouth jars, often restricted to a band immediately below the rim. The underwater material has an emphasis on crosses and infilled triangles and slashed lines while the land-based material is more diverse, although triangles, lattices, ladders and zigzags all play a prominent role. The decoration on many of the underwater vessels appears to be fairly poorly executed.

There are two interesting decorative techniques present at Bharabhat. The first is the presence of rim top decoration, on the rim of a holemouth jar and on the rim of an open-mouthed barrel-shaped vessel. The former has fingertip/nail impressions along the rim (p40, and Fig 20.3), while the latter is described as finger indented with an undulating edge (p95, and Fig. 49.1). This technique both looks forward to the Late Iron Age period where holes are impressed along the rim top, and backward to the Late Bronze Age, where vessels found at Cladh Hallan are decorated in this fashion too (V. Parsons pers. comm.). The second is the presence of bosses, a very unusual technique at Beirgh where it is recorded on just two sherds (cat. no. 2089 and on cat. no. 141).

From a straightforward count of vessels, the most common vessel type at Bharabhat is holemouth jars. These are present at Beirgh, as we have seen, but tend to play a much smaller part in the assemblage. The decoration of holemouth jars is similar between the two sites, with single or double rows of impressions immediately below the rim prevalent. Again, however, there is a much wider variety of motifs present at Bharabhat, such as incised patterns, and even one vessel bearing bosses. Often however, where other motifs are present, the row of impressions below the rim still forms part of that design.

The main problem in attempting to draw parallels between the two assemblages is that information on fabric, manufacturing techniques and firing is very limited, so it is not possible to relate manufacturing and firing techniques between the sites to see whether the patterns at Beirgh are reflected in its nearest neighbour. It would be interesting to determine whether both sites employed the same manufacturing methods, and perhaps even clay sources, which may then point towards the sharing of resources or even sharing a potter.

8.1.2 Cnip

The wheelhouse complex at Cnip on the northern coast of the Bhaltos peninsula was excavated by Ian Armit (Armit 1988b; Armit 1990: 84-94; Armit 1996) when it was threatened by the construction of new sea defences. The site is only 1.5km from Beirgh. There are two excavated wheelhouse phases (Phases 1 and 2) and a final phase of cellular structures (Phase 3) built once the wheelhouses go out of use, probably ending in the third century AD. The dating of wheelhouses is problematic (see Armit 1996: 145-148) but it seems likely that wheelhouses went out of use, or at least ceased to be built, by the first or second century AD, while they may have been constructed in the last two centuries BC. This places the Cnip wheelhouse in a comparable time period to the secondary Roundhouse and early Cellular phases at Beirgh.

The assemblage from Cnip was analysed by Ann MacSween (unpublished). It was analysed along two different strands: firstly, the pottery from all of the phased contexts was analysed; and secondly, just the pottery from a secure sequence of stratigraphic blocks, identified by the excavator, was analysed. The aim in this approach was to try and overcome the mixing of the assemblage between phases by only using securely stratified contexts for which mixing was considered the least likely.

MacSween identified little change throughout the sequence in terms of manufacture. The majority of the vessels are built with angled coil joins and finished by smoothing. Vessel types comprise principally everted rim vessels and barrel-shaped vessels with inturned rims. Everted rims always form the majority of the assemblage through the site's phases, with inturned rims slightly more frequent in Phase 1. Plain rims and necked vessels are slightly more frequent in Phase 3. Forms such as T-shaped rims occur infrequently.

Applied cordons are the most common type of decoration throughout the sequence. Incised decoration is also present, with an indication that applied decoration increases over time and incision decreases. Decoration is restricted to the upper part of the vessel or the base interior. While simple wavy cordons appear to be the single most common motif, usually found on everted rimmed vessels, there are some variations. These variations include motifs such as wavy cordons with attached circles, plain cordons, cordons incised or impressed in various ways, and horseshoe shapes. These can be mirrored directly at Beirgh. However, other motifs would appear to have no parallels at Beirgh or at Bharabhat. Examples of these are chain-like motifs formed by rows of applied rings, rope effect cordons and geometric cordons. What they do have in common, however, is that they sometimes appear to form the lower boundary for areas of incised decoration, and can be found in the neck angle as well as on the shoulder.

Incised decoration appears to have many of the same motifs as found at Beirgh and Bharabhat, such as rows of short diagonal lines, chevrons, feathers, herringbone, lozenges, and multiple zigzags. The motifs can be found in various combinations, and some are arranged in panels. Fingertip impressed bases were found, and impressed decoration usually comprises rows or double rows of impressions of various types, below the rim. A motif of impressed dots forming triangles infilled with incised lines would not be out of place at Beirgh or Bharabhat. Stab-and-drag decoration has also been recorded. Combing and wiping appears to have been used decoratively.

MacSween states that analysis of the occurrence by phase of individual motifs could not be carried out due to the low numbers of each motif. This suggests that there was very little repetition of motifs. Lane's Plain Style is not present at all, suggesting no equivalent phase of occupation to Beirgh's Late Iron Age.

8.1.3 Bostadh

This site is important for its comparison with the Late Iron Age phases at Beirgh. This settlement is situated on Bostadh Beach, on the north-western tip of Great

Bernera island. The site is separated from the Bhaltos peninsula by West Loch Roag, and is about 6 km from Beirgh as the crow flies; access to Traigh na Beirgh beach from Bostadh is about 5 km across West Loch Roag, between or around the islands of Pabay Mor and Vacsay.

Coastal erosion prompted rescue excavations (Neighbour 1997), revealing three, perhaps four, figure-of-eight shaped structures revetted into the sand, dating to the Late Iron Age, and an overlying rectilinear structure and midden of the Norse period. The figure-of-eight structures are architecturally similar to those in Phases 1-4 at Beirgh, and the material culture (brooches, pins) is also very similar. The pottery (Johnson in preparation(a)) provides an excellent comparison for the Beirgh assemblage at this time. Bostadh has been radiocarbon dated to c. AD 700-1000 (T. Neighbour pers. comm.). A radiocarbon plateau during this period does not allow for more precise dating of the Late Iron Age and Norse phases individually.

A similar approach was taken to the Bostadh fabric analysis as at Beirgh. This showed that the pottery fabrics at Bostadh characteristically were coarse, often with quite large grits (stones up to 20 mm across). A summary of the fabrics is presented in Table 8-4. The pottery is coil built, with coil breaks showing tongue-and-groove joins. Exterior surfaces were finished by wiping and very rough combing. The interior surface of the vessels is often smoother than the exterior. The vast majority of the pottery is unoxidised. These characteristics tie in very well with those seen at Beirgh for this period.

Table 8-4: Percentage by weight of fabric types

	Few grits		Some grits		Gritty		Very gritty		Total
	No grass	*Grass*	*No grass*	*Grass*	*No grass*	*Grass*	*No grass*	*Grass*	
Fine	<1	<1	<1		<1				<1
Medium	2	<1	3	3	1	4			13
Coarse	7	1	30	43	3	1	<1	<1	85
Very coarse	<1		1	3	1				5
Total	9	1	34	49	5	5	<1	<1	

There is a limited range of vessel types represented at Bostadh. The shapes are very simple and there is little uniformity of style, each of the types described and illustrated below covering a range within the broad outline. The vessels often have slack profiles and uneven rims. There are four main forms of vessel present at Bostadh:

1. Bucket-shaped vessels which have straight sides ranging from almost upright walls to more flowerpot shaped vessels.
2. Shouldered jars, which have an upright rim and a pronounced angular or rounded shoulder beneath, to produce a tapering or slightly globular body.
3. Flaring rimmed vessels which have an S-shaped rim to produce a concave, restricted neck
4. Bowl forms which have gently curved walls to produce a neutral mouth: these may alternatively represent the type of long flaring concave rim seen at Dun Cuier and Beirgh.

The rim diameters of the Bostadh vessels indicate a range between 14cm and 38cm. Bucket-shaped vessels and flaring rims are common at Beirgh during the Late Iron Age. There were no clear examples of shouldered jars or of the bowls at Beirgh, although Bostadh type 4 could be equivalent to Beirgh Form 17, which is present in low numbers during the Late Iron Age. The range of rim diameters at Bostadh overlaps with the range seen at Beirgh.

There are two types of base in the assemblage:

1. Footed bases, which have a foot at the base of the wall's exterior, resulting in a concave angle before splaying out to the body of the vessel.
2. Flat bases, which have a straight angle at the point where the base joins the wall, with no foot present.

Both of these base types are also present at Beirgh. The majority of bases found were footed. Base diameters range between 6cm and 16cm, the most frequent being 9cm, which is similar to Beirgh.

There are several decorated sherds present in the assemblage at Bostadh, from the earliest excavated structure and from unstratified contexts eroding out of the sand dunes. These include cordons, channelling, incised crosses, incised ladders, and internally decorated bases. They would appear to indicate the presence of earlier

Iron Age structures somewhere on Bostadh Beach in the vicinity of, or perhaps even beneath, the figure-of-eight settlement. There are no examples of the decoration seen to be characteristic of the Late Iron Age at Bostadh, namely the moulded wavy rims and impressed dots along rim tops, and so all the decorated material from the Late Iron Age Bostadh assemblage can be interpreted as residual.

The assemblage from Bostadh has a great many similarities with the Late Iron Age assemblage from Beirgh, in manufacture, firing, form, and surface finish. The main difference is that there are fewer shouldered jar types at Beirgh and Bostadh does not have the limited range of decoration seen at Beirgh in this period.

8.1.4 A West Lewis micro-sequence

It is apparent that Bharabhat, Cnip and Bostadh can be tied into the same pottery sequence as Beirgh, providing overlaps with the Beirgh assemblage through time. Bharabhat provides the earliest part of the available sequence and overlaps a little with the earliest excavated phases at Beirgh. Cnip provides an overlap in time with part of the Beirgh Cellular phase, while Bostadh provides a comparison with the latest phases at Beirgh, the Late Iron Age period. Thus, a complete sequence covering the period from the second half of the first millennium BC to the late first millennium AD, ending prior to the Norse period, is provided by these sites.

The Bharabhat and Beirgh evidence indicates that the early Iron Age period, characterised by Complex Atlantic Roundhouses and secondary roundhouses inserted within them, has pottery with a diverse range of decoration. This pottery, comprising primarily holemouth jars and everted rim vessels, is decorated on the upper part of the body with a range of incised motifs, including ladders, chevrons, lattices, feathers, triangles and crosses, often arranged in radial panels, and often bounded by an applied cordon or a horizontal row of impressions. A range of vessel sizes is present along with a variety of fabrics. Principally however, the vessels have well finished surfaces and are well fired/oxidised. Bases sometimes have internal decoration comprising fingertip impressions.

The Middle Iron Age period is characterised by the Beirgh Cellular phase, which is overlapped during its earlier part by Cnip. This phase can be seen as a period when experimentation with the form of cordons was occurring, with such examples as horseshoes, circles, plain and impressed cordons. Channelling is common at Beirgh but seems little used at Cnip. Incised decoration falls out of use at both sites during this period, although motifs present at Cnip have direct similarities with that at Beirgh, representing the overlap between Cnip and the Beirgh Roundhouse period. Impressed bases are present at both sites. The pottery has well finished exterior surfaces and again is principally oxidised.

The Late Iron Age period characterised by figure-of-eight houses is represented at both Bostadh and Beirgh (Phases 1-4). This period is dated to the period AD 700-900 on the basis of the Bostadh radiocarbon dates. The vessels in use in this period consist of flaring rim vessels, bucket-shaped vessels and shouldered jars, often with footed bases. The vessels are typically undecorated which led to Lane describing this period's pottery as Plain Style, as discussed in Chapter 2. The vessels have coarse fabrics and while the interiors are often smoothed, the exterior of vessels is rough, making the vessels appear as if little care has been taken in their manufacture. The vessels typically have tongue-and-groove coil joins and generally rim diameter ranges from 14cm to 35cm, with an emphasis on the larger end of this range. A small increase in vessel size is seen at Beirgh from the earlier phases, and this is perhaps borne out at Bostadh, where a single very large vessel was found *in situ*. Some minor elements of decoration are present at Beirgh, comprising impressed dots/pits along the rim tops and moulded wavy rim tops, which may have antecedents in decoration seen at Cnip and much earlier at Cladh Hallan.

8.1.5 Date of the sequence

As briefly discussed in Chapter 1, a number of radiocarbon dates have been obtained for Beirgh. These dates are summarised in Table 8-5.

Table 8-5: Beirgh Radiocarbon dates (after Harding & Gilmour 2000: 62)

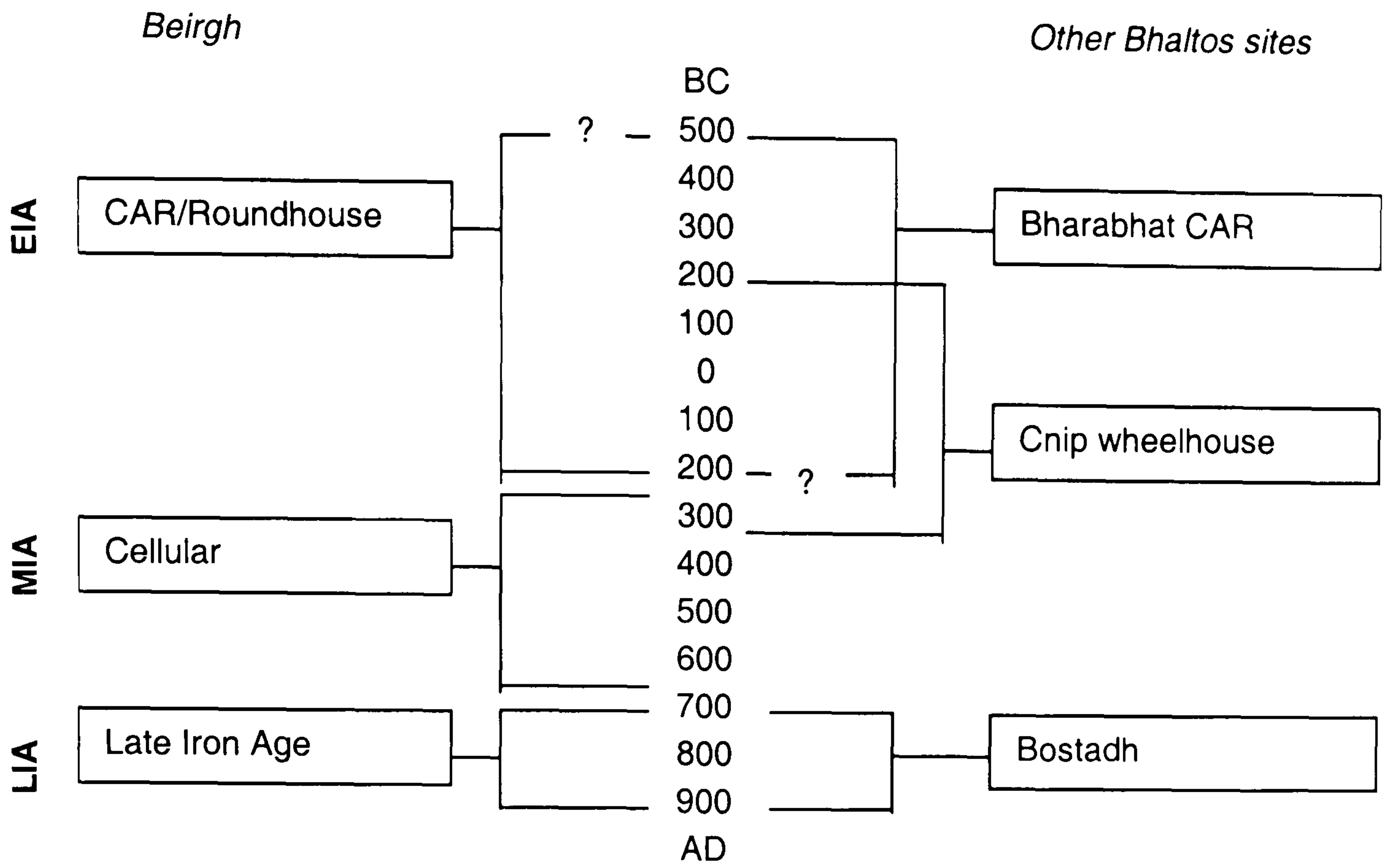
Lab Code	Context	Sample Type	C14 Date	2s Cal AD	Phase
GU-4923	153	Wood charcoal	1760 ± 50	130-400	10
GU-4927	556	Wood charcoal	1700 ± 50	220-430	9
AA-23724	426	Wood charcoal	1650 ± 55	250-540	6
AA-23723	438	Carbonised grain	1595 ± 60	265-600	6/7
GU-4926	454	Wood charcoal	1580 ± 60	340-610	5/6

These dates indicate that the Cellular phase covers at least the third, fourth and fifth centuries AD, and, although its end is not closely dated, Phase 5 may continue into the seventh century AD. The Roundhouse phase is not closely dated either. The most secure of the Beirgh dates is AA-23723 from carbonised grain, as it does not have the problems inherent in dating wood charcoal (i.e. long life-spans of trees and possibilities of caching wood). However, a significant problem with dating the Beirgh sequence and using it to provide parallels for other Hebridean assemblages is the lack of a comprehensive suite of radiocarbon dates to cover all of the phases in detail.

The dating of the Bhaltos sequence is shown in Fig. 8-1. The date of the earliest occupation at Beirgh is unknown. It may be possible that the Cellular phase is too compressed at present, and that it should be extended earlier into the first millennium AD, perhaps beginning in the early second century. This would provide more overlap with the Cnip wheelhouse, whose pottery is remarkably similar and whose later secondary structures are also cellular. Considering that there were five phases of Cellular occupation (Phases 9-5) and a considerable amount of material recovered, this expansion of its duration is not inconceivable. This re-dating would push back the date of the end of use of the secondary Roundhouse at Beirgh to the turn of the millennium which consequently would provide a first millennium BC date for the original CAR. However, on the present dating evidence this cannot be fully supported.

One period where there is not a second site available to provide an overlap with the Beirgh sequence is the later Cellular period. Perhaps it would have been present at Bostadh had excavation continued into the earlier levels.

Figure 8-2: Dating of the Bhaltos sites



8.2 *The wider context*

There are a number of important excavations throughout the rest of the Western Isles, which can provide useful comparisons to Beirgh and the Bhaltos sequence. A survey of all the published assemblages was undertaken. This also included unpublished assemblages which were made available to the author. Unpublished material held in museum collections was not consulted due to time limitations. To begin though, the Late Bronze Age background will be discussed to place the beginning of the Iron Age sequence in context. This section then goes on to discuss the evidence for the Early, Middle and Late Iron Age throughout the Western Isles, referring back to the west Lewis micro-sequence and Beirgh in particular. The list of sites discussed is not exhaustive but makes use of those sites which have sufficient detail to allow their incorporation into a Western Isles pottery sequence. Stray finds and material from some older excavations are not included.

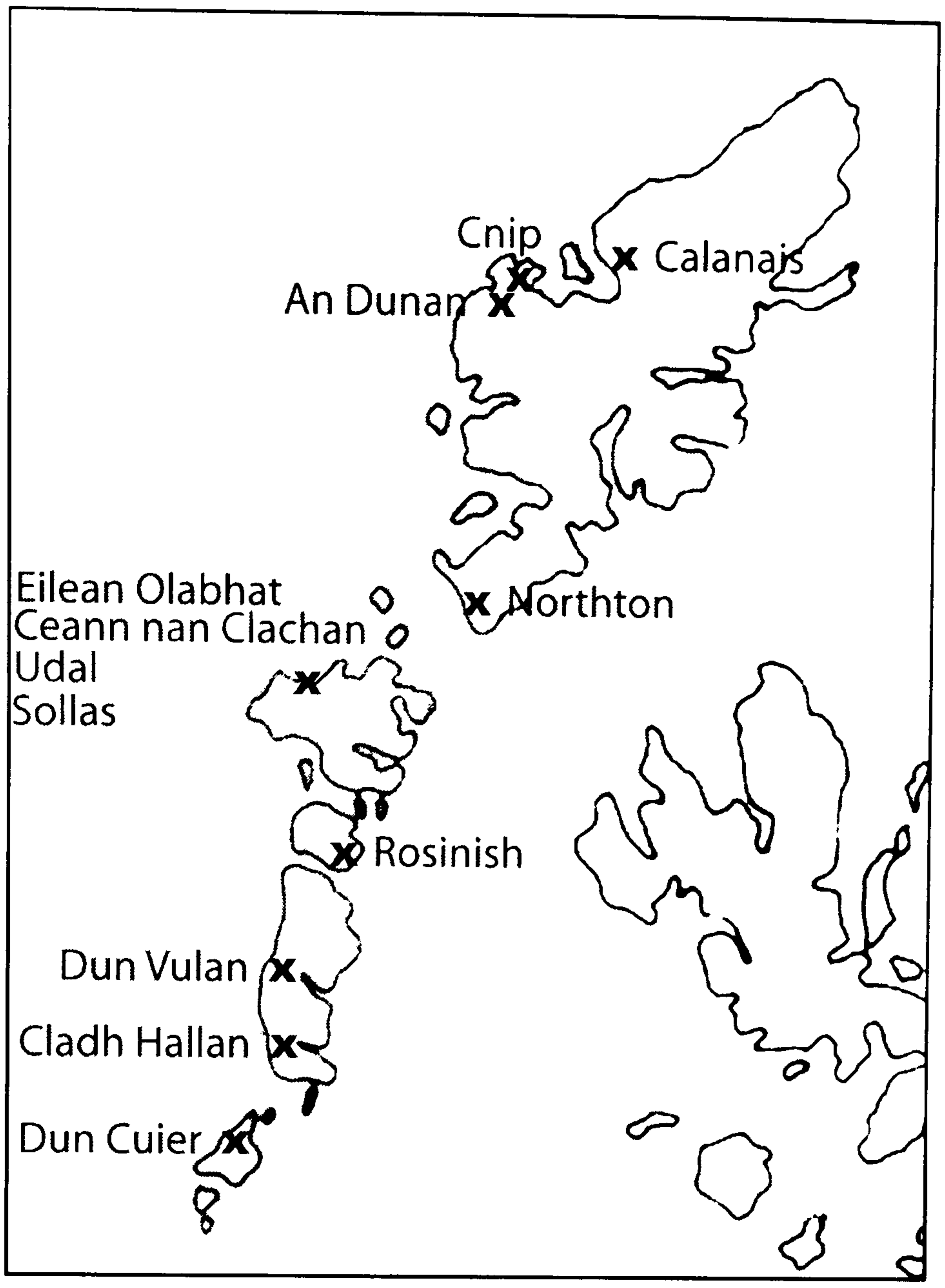


Fig 8-3: Map of the Hebrides showing some of the sites mentioned

8.2.1 Late Bronze Age background

A Bronze Age tradition of simple urns accompanying inhumations and cremations is beginning to be recognised in the Western Isles, though it is apparent that there may have been a broad range of funerary traditions in use during this period. A number of urns, for instance, were found within the funerary monument at Rosinish, Benbecula (Crawford 1977). This beehive corbelled cist, covered by a low mound and surrounded by a ring of stones, contained three inhumations accompanied by two urns. The site was later truncated by two smaller cists outside the ring of stones, one of which also contained an urn, though no skeletal remains were found. A fourth urn was found within the stonework of the monument. Although there is an absence of radiocarbon dates from the site, the excavator dated this complex to the latter part of the Early Bronze Age, as stratigraphically the monument truncated Beaker period midden layers. Structurally, the monument might also have links with the funerary monuments at the Udal (Crawford & Switsur 1977) and Cnip (Close-Brooks 1995). In considering the pottery from Rosinish, Crawford (1977) notes that the vessel types are unusual, and suggests that they were immediately post-Beaker in date, representing a local development which evolved from local Beaker wares. The Rosinish vessels are fairly small barrel-shaped pots and were found relatively intact. Vessel 51 has a cordon below a simple rounded incurving rim and simple incised decoration. Vessel numbers 27 and 50 have rims with external bevels forming a roughly triangular section almost like a collar. Basic descriptions of their fabrics indicate buff vessels with large gneiss and quartz grits.

Bronze Age vessels were found at Northton, Harris (Johnson in Simpson *et al* forthcoming), a multi-period site with a Neolithic building and inhumation, three further burials of Bronze Age date, and midden potentially covering the Neolithic to Medieval periods. Bronze Age vessels were found associated with burials and from within the midden, and generally consist of plain pots in simple barrel-shapes, with rounded or more flattened rims, slightly inturning or upright, with splayed bases or with a slight foot. Simple tub or bucket-shaped pots with straight walls are also present within the assemblage. Only one vessel is decorated, with a plain cordon around its upper body. The fabric of the vessels is very coarse and thick with large grit inclusions, which often protrude through the surface, and usually the surfaces are smoothed and finger-marked. Significantly, one of the pots was found associated with a cist inhumation. This vessel lacks its rim but is a small barrel-shaped coarse plain pot. A second vessel was associated with Grave II, and this is also a small, thick and heavy barrel-shaped pot.

A burial monument was excavated at Cnip, within the machair to the west of the Cnip wheelhouses (Dunwell *et al* 1995). A cist contained an inhumation (Dunwell *et al* 1995) along with a vessel accompanying the inhumation, which was dated to 3360 +/- 50 bc (GU-3488) (Dunwell *et al* 1995). The pot is a squat coarse vessel, of a simple tub shape with bipartite profile, due to a slight shoulder/carination and an upright slightly flattened rim. The fabric is coarse with large grits protruding through the surface on the interior. The kerb cairn at Breasclete, Calanais, Lewis also contained an urned cremation within a small central cist (Neighbour 1996 and in preparation). This burial has produced a series of radiocarbon dates in the first half of the second millennium BC (Neighbour in preparation). The vessel (Johnson in Neighbour in preparation) is a simple barrel-shaped pot with a slightly inturning rim, with limited incised decoration on the rim consisting of short transverse lines. This decoration is not continuous around the rim's circumference, however, but occurs in at least two separate areas. Other comparable vessels are possibly those discussed by Megaw and Simpson (1961) from Port na Long and Trecklett, North Uist, which were also found in cist burials. Megaw and Simpson (1961: 67) suggest these vessels might be a local alternative to collared urns.

It appears, therefore, that there are certain similarities between the vessels found at the funerary sites at Rosinish, Cnip and Calanais, and those found within the cist and middens at Northton. However, the Northton vessels also have close similarities with a series of domestic plain coarse wares that have recently been recovered from a roundhouse settlement at Cladh Hallan, South Uist (Atkinson *et al* 1996, Marshall *et al* 1998). This settlement spans the first half of the first millennium BC, with a pottery sequence comprising plain barrel-shaped vessels with internally bevelled, rounded or flattened rims (M. Parker Pearson & V. Parsons, pers. comm.). These vessels are also coarse with large grit inclusions, and they seem to provide complementary pottery types to those known from funerary contexts. The full publication of this site is eagerly awaited.

The excavation of a series of field walls, enclosures and other features on a peninsula to the south of Calanais, on the west coast of Lewis (Bohncke & Cowie in prep) produced a small assemblage of pottery. The site is buried beneath peat, and one of the field walls has a *terminus post quem* from peat directly beneath its basal stones of 2990 +/- 60 bp (GU-1407), calibrated to the second half of the second millennium BC. The pottery assemblage (Lane & Campbell in prep) came primarily from a single trench, though it is not securely stratified and may be mixed. It consists of plain, flat-based bucket or barrel-shaped vessels with rounded inturning rims, flat rims and internally bevelled rims, and is thick with large grits, providing good parallels with the Cladh Hallan assemblages. A rounded inturning rim sherd has been tentatively dated to the first half of the first millennium BC on the basis of a further sherd in the same distinctive fabric being found stratified beneath a later wall. A date in the first millennium BC for the whole assemblage is not unlikely.

Other unpublished settlement sites dating to the Bronze Age, which produced assemblages containing plain vessels, will help to clarify the ceramic sequence for this period. These are the settlement sites at Barvas and Dalmore on Lewis, the Udal on North Uist (Dunwell *et al.* 1995, 286), and Guinnerso on the west coast of Lewis (S. Gilmour pers. comm.).

8.2.2 The Early Iron Age

The Early Iron Age, as defined in Chapter 1, covers the period c.500BC to AD 200. This period has been poorly represented in the archaeological record but a number of sites more recently excavated are beginning to fill this gap.

Ceann nan Clachan, a burnt mound site containing two phases of structures, was dated to c.770-400 BC (Armit & Braby 2002). A small assemblage of pottery (Johnson in Armit & Braby 2002: 242-246) consists of simple bucket or barrel-shaped vessels with rounded, sub-rounded or flattened rims, some slightly inturning. One vessel appears to be a bowl, while another has an everted rim with a slight internal bevel at the tip, which is also much harder, less gritty, and better fired and finished. There may be a very abraded cordon set into the angle of this rim. There are decorated sherds, all from the same vessel, showing an incised zigzag with large dots placed in the angles. The everted rim and decorated sherds came from the upper floor deposits of structure 2, a cellular structure which has similarities to one from Cladh Hallan, and is likely to be Early Iron Age (Armit & Braby 2002).

An Dunan lies on a small islet near Uig Sands on Lewis and has been radiocarbon dated to 400 BC to 100 BC (Gilmour 2002). The structures found have been interpreted as a ritual site associated with human cremation (Gilmour 2002). Pottery

(Johnson, in preparation(b)) was recovered from a large hearth inside a small sub-rectangular building, along with cremated human bone and quartzite pebbles. The pottery included upright, everted and inturning rims: some body sherds suggested a globular vessel shape while others suggest straight-sided pots. Decoration comprised: applied cordons (wavy and twisted types), and bosses or roundels; incised motifs including zigzags and crosses placed inside boxes; and impressed motifs such as fingernail and dots. Some of the incised decoration is crude and the cordons are thick. Of particular interest is a small short flaring rim sherd with impressed dots along the top of the rim.

Eilean Olabhat lies on North Uist and is a multi-phase site, including Neolithic, Iron Age and later material. The Iron Age to post-Medieval pottery assemblages were analysed by Campbell (unpublished). The assemblages from Phases I and II may belong to this period. Phase I was of limited size and comprised bucket-shapes, while the only decorated vessel had impressed grooves on the rim top, a technique paralleled at Sollas (Campbell 1991: 151, illus. 15). The Phase II assemblage also has a limited range of forms, comprising bucket-shaped vessels. There are no sharply everted rims present. Decoration consists of thick applied cordons, an applied roundel, and a vessel with an incised chevron motif with stabbed dots. These types are strongly reminiscent of motifs found at An Dunan and Ceann nan Clachan.

Using a new approach, Campbell (2002) has produced a series of food residue dates, which are a significant addition to the fine-tuning of the pottery sequence. The full sequence of dates is awaiting publication but they are summarised in Campbell 2002. The Early Iron Age period at Eilean Olabhat (Phases I and II) produced AMS dates from residues spanning the fourth to second centuries BC. Campbell interprets the structure (a roundhouse) as being an early stage in the development of wheelhouses (2002: 140).

The excavations at Sollas, North Uist, were undertaken by RJC Atkinson in 1957, and published by Campbell in 1991. Two areas were excavated, Sites A and B, each revealing circular structures with two internal phases. Construction of the Site B wheelhouse was radiocarbon dated to the first or second century AD (Campbell 1991: 140), and Site A was considered to be earlier than this (1991: 137), and so Sollas is included here rather then in the Middle Iron Age section.

The site sequence as described by Campbell results in phases A1, A2, B1 and B2, and material from Site B's midden, which cannot be tied in to the structural phases. The pottery is placed into this proposed site sequence. Campbell identified six forms, Forms A-F (1991: 150). Forms D and F have just a single vessel each.

A: large bucket-shaped vessels, usually with a slightly incurving rim
B: same vessel shape as A, but smaller and with thinner walls
C: slightly everted rims and a more rounded profile but otherwise similar to A and B
D: vessel with a pronounced high shoulder and a slightly out-turned short rim
E: encompasses globular vessels with everted rims
F: a small bowl with a rounded base

Decoration is always confined to the upper part of all vessels, from the shoulder up. Campbell's summary of the main decorative motifs found in each phase is illustrated (1991: 149, Illus. 14). Period A1 comprises fingernail impressions and dot filled double lines. Period A2 comprises lattices and triangular motifs, dot filled double lines, double crosses or lozenge patterns, and ring impressions. Period B1 comprises multiple zigzags, ladders, infilled triangles, linked triangles, herringbone, and some curvilinear motifs. Period B2 comprises ladders, feathers, zigzags and triangular motifs. From the Site B midden there are again triangles, herringbone and lines with dots. Campbell simplifies this to suggest that Period A's decoration is primarily based upon a lattice forming lozenges, while Period B is based primarily upon triangles forming an arcade above a horizontal line (1991: 155). The basic repertoire is very similar across the site with the details of exactly how the motif is drawn and arranged differing.

Campbell records that Period B1 has the most incised decoration present and also the most variety in designs (1991: 154). He records channelled decoration as appearing at the same time as everted rim pottery and that it is at first rare but becomes more common (1991: 155). He also notes that grass tempering is present but went out of use prior to the introduction of everted rim pottery (1991: 157).

In the original site report, Campbell argued for a first or second century AD date for the introduction of everted rim pottery (1991: 157) although he acknowledged that could be criticised, "on the basis that there may have been a gap in occupation between Period A and Period B" (1991: 157). He saw the appearance of everted rims as sudden but with continuity of decorative styles (1991: 155-157). He attributes this change to the influence of Roman contacts and suggested that everted rim vessels were copies of Roman bronze vessels (1991: 157).

More recently, Campbell produced residue dates for some of the Sollas vessels (2002), which refined his dating of the Sollas structures. Gilmour (2002: 60-62) highlights the potential problems with these dates. These residue dates suggest that wheelhouse A was abandoned in the second century AD and wheelhouse B was built at this time. Decorated pottery of forms A-C, which Campbell states predates everted rim pottery at Sollas, was radiocarbon dated to the first millennium BC/AD transition, and is suggested to have evolved from the earlier Iron Age forms of the fourth/third century BC (2002: 141). Therefore, a date in the second century AD or after is still implied for the emergence of everted rim pottery at Sollas (2002: 141). The lack of everted rim pottery at wheelhouse A is used to back up the late introduction of this type (2002: 141). The end of the sequence is not dated as Plain Style pottery is not present at Sollas.

Many of the characteristics of Site A's pottery are comparable to An Dunan and Ceann nan Clachan, in particular the thick cordons, applied roundels, and the bucket- and barrel-shaped vessels. The motifs present at Sollas have many similarities with those from Bharabhat. What seems to be lacking from Sollas is the wide variety of cordons seen at Beirgh and Cnip, suggesting it is earlier in date or that there is a regional distinction. This perhaps suggests that Sollas should be dated much earlier in the sequence than Campbell has argued (see also Gilmour 2002: 62).

MacKie's excavations at Dun Mor Vaul, Tiree (1974) provided a major kicking-off point for the analysis, and discussion, of Hebridean Iron Age pottery and dating of brochs. Dun Mor Vaul was discussed in Chapter 2 regarding its contribution to pottery studies in this area, and the criticisms of MacKie's approach were rehearsed.

Vaul Ware, as identified by MacKie, consists principally of barrel-shaped vessels and more holemouth-like pots, and smaller pots with S-shaped rim profiles. Decoration is very varied, consisting of impressed and incised motifs such as feathers, chevrons, lattices, zigzags, triangles, ring impressions, dots, and finger-impressed bases. The decoration is often complex, with several motifs combined together, and with the exception of internally decorated bases is always confined to the upper portion of the vessel's body. This pottery dominates in the earliest phase (Phase 1), where it is the only type present, and forms a smaller component of the subsequent phases.

There is a great deal of similarity in vessel shape, decorative technique and motifs at Bharabhat, Ceann nan Clachan, An Dunan, Eilean Olabhat, Sollas and Dun Mor Vaul in this period. It seems likely that a previously unknown Early Iron Age assemblage is coming to light, seen at Ceann nan Clachan, Sollas A, Eilean Olabhat and An Dunan, comprising barrel- and bucket-shaped vessels with limited and crude decoration. This decoration includes thick cordons, applied roundels and bosses, incised zigzag and stabs or dots, and some rim top decoration.

This transforms into the more familiar Early Iron Age assemblage seen at Bharabhat, Sollas B and Dun Mor Vaul. The pottery becomes extensively decorated, expanding upon the motifs and patterns, becoming more elaborate and more carefully executed. This decoration is often based around lattices, feathers, triangles and lozenges. Vessels largely consist of barrel- and bucket-shapes but the everted rim appears, perhaps initially as a slighter, more S-shaped everted rim.

It seems possible that everted rims were developed during the first two centuries AD, or perhaps in the last century BC. Phases 11, 10 and the NE Extension Lower and Middle phases at Beirgh, do have a high proportion of everted rims. However, Phases 10 and the NE Extension Middle also have the highest proportion of Form 1 too, perhaps suggesting that this assemblage does not have as early origins as the others but instead represents the transition into the next phase of pottery development.

The hypothesis then is that the Early Iron Age may be divided into three ceramic phases (Table 8-6). Further work should pinpoint the nature and date of these changes. It is possible that incised and applied decoration found in the earliest Iron Age is a forerunner to the later, more lavishly decorated wares, and this period sees continuous development of pottery styles.

Table 8-6: Summary of hypothetical Early Iron Age Hebridean ceramic phases

1	c.800-400 BC	Barrel- and bucket-shaped vessels, applied roundels, crude incision with limited motifs
2	400-0 BC	Holemouth vessels, S-shaped everted rims, elaborate incised decoration
3	AD 0-200	Everted rims, incised decoration, applied cordons

8.2.3 The Middle Iron Age

On South Uist, the most recently excavated assemblage is that from the Complex Atlantic Roundhouse known as Dun Vulan (Parker Pearson & Sharples 1999). The excavation of some of the CAR galleries and structures and middens outwith the CAR produced a large pottery assemblage. The construction of the broch has been dated to the late second or first century BC.

The majority of the stratified material came from the middens, with smaller assemblages from other areas. This is unfortunate, as the sequence of deposition within a midden cannot be directly correlated to structural phases. The layout of the report also makes it difficult to disentangle a pottery sequence as the pottery analysis is divided up into excavation areas and distributed throughout the report, with only a cursory summary at the end. A series of ceramic phases were "adopted during initial analysis of the pottery" (Parker Pearson & Sharples 1999: 210), the dating of which was later refined (Table 8-7). The rim forms are based upon Topping's (1987) classification and have less variety than Beirgh.

Table 8-7: Dun Vulan Ceramic Phases (adapted from Parker Pearson & Sharples 1999: 210)

Phase	Description	Equivalent to	Date
0	Plain coarse vessels with friable fabrics and large rock inclusions. It is found only in layer 619, prior to the broch.	MacKie's Dunagoil Ware	8th–5th centuries BC
1a	Largely plain, thick-walled vessels but with finer, harder fabrics than phase 0. Rims are of type 8 (equivalent to Beirgh holemouth, type 1). Found within the construction layers of the broch.	MacKie's Dunagoil ware	1st century BC/AD
1b	Pottery decorated with incised dots, incised lines and thick plait-like cordons. The rim is often decorated with fingernail, fingertip and thumb impressions.	MacKie's Balevullin ware	1st - 3rd centuries AD
2	Similarly decorated pottery but including applied roundels and lattice incisions. Thumb-impressed footed bases are found on some pots.	Campbell's Sollas A1 and MacKie's Vaul ware but there is undoubted overlap with phase 1b	1st - 3rd centuries AD
3	Lattice and feathered incisions. There are footed bases as well as omphalos bases. The ogee-arched cordon appears to be restricted to this phase.	Sollas A2 and MacKie's Vaul ware	1st - 3rd centuries AD
4	Sharply everted rims, curved parallel lines forming rounded arches, multiple zigzags. Decorations still include latticed and feather-based motifs.	Sollas B1 and MacKie's Clettraval ware	2nd - 4th centuries AD
5	Sharply everted rims, feather-based incisions, curved parallel lines and channelled rounded arches.	Sollas B2 and MacKie's Clettraval ware	5th - 6th centuries AD
6	Largely plain vessel with flaring rims. Decoration is restricted to cordons (often at the neck), and applied curved arches, and surfaces often have a rough finish.	Dun Cuier style	6th - 9th centuries AD
7	Globular vessel with incised dot decoration and high necks. These Medieval vessels are found in layer 10.		14th - 16th centuries AD

Many of the decorative motifs have direct equivalents in the Beirgh assemblage (see Parker Pearson & Sharples 1999: 215). Incised and applied decoration was dominant, and placed on the upper part of the vessel. There is a wider range of cordon types, including cross-incised, plait-like, twisted, and dot-impressed.

Applied circles and horseshoes are present. Incised motifs include many of those found at Beirgh such as ladders, lattice, feathers, triangles, crosses, zigzags, and short diagonal lines. These can be found in combination with cordons, as at Beirgh. Channelling and impressed decoration is rare at Dun Vulan, but includes dots, stab-and-drag, chevrons, lines of stabs, fingertip, and channelled arches. The common decorative elements present at Beirgh and Dun Vulan, are very similar but the exact way in which they are used and a motif put together can differ.

The predominance of incised motifs and the lack of channelling suggest that the Dun Vulan assemblage may overlap with the earlier phases at Beirgh but not the majority of the Cellular phase. The presence of small quantities of crude holemouth-type rims, or barrel-shaped vessels, in the earliest contexts is significant in the light of the discussion of the Early Iron Age in Section 8.2.2 above.

It is clear that although a sequence of pottery could be established, like Beirgh these changes overlap between phases (*ibid.*: 211). Interestingly, at Dun Vulan there is a decrease in average vessel size over time and very large pots disappear (*ibid.*: 211), which is the opposite of the pattern seen at Beirgh.

The dating of the sharply everted rims is based upon their absence from the midden (first-third centuries AD), and so are suggested to "appear in the second or even third century AD, though the date from layer 4 in the chamber puts them in the late first or early second century AD" (Parker Pearson & Sharples 1999: 210). Parker Pearson admits that this is later than estimated by Campbell at Sollas (*ibid.*: 210). To recap, Phases 1, 2 and 3 (first century BC to third century AD) have holemouth jar types with incised decoration primarily. Everted rims appear only in Phase 4 and later (fourth century AD), along with channelling, while incised lattices and feathers continue. This is later than has been established for the Bhaltos sites and may indicate regional differences.

At Dun Mor Vaul (MacKie 1974) the Middle Iron Age material is represented by everted rim pottery, dated by MacKie to the first three centuries AD. There is a change in the dominant decorative techniques, to applied cordons and channelled arches, and fluted rims are present. Often, cordons are combined with channelling, which can manifest itself as channelled multiple arches and curves, cannelled zigzags, parallel channelled lines. Cordons are generally on the shoulder but also found in the neck and there is one illustrated example of a double cordon. Cordons include wavy, pinched, twisted, and those with fingernail impressions. External rilling is noted. Many of these sherds have direct parallels in the Beirgh assemblage. The most notable difference between the two assemblages is that there appears to be less variety within the cordons and more variety within the channelling at Dun Mor Vaul than at Beirgh. For example, there are no illustrated examples of applied curvilinear devices. This suggests that these phases (all excluding phase 1) are comparable to the Beirgh Cellular phase.

A number of sites were investigated by teams from Sheffield University on Barra and the small islands at the south end of the Western Isles chain (Branigan & Foster 2000). At Alt Chrisal (Foster & Pouncett 2000a) an Atlantic Roundhouse and wheelhouse were found above the Neolithic levels, with secondary re-use. The pottery was described as being badly fragmented and abraded and only preliminary analysis was carried out (Foster & Pouncett 2000a: 167-178). However, six ceramic phases were identified. These are summarised in Table 8-8: the dating is as provided by Foster & Pouncett 2000a.

On Pabbay (Foster & Pouncett 2000c) excavations were conducted on two sites: Dunan Ruadh, a CAR threatened by sea erosion, and Bagh Ban, an earth-house. Very little pottery was found at the latter site. At Dunan Ruadh, five phases of occupation produced a mixed assemblage of Iron Age pottery. Everted, holemouth, slightly everted and flaring rim types were found. Decoration included cordons (wavy, plain, slashed and pinched, and with attached horseshoes), incised lattices, zigzags, curves, feathers and triangles, plus applied bosses and rows of dots (Foster & Pouncett 2000c: 241-250). Channelling is very scarce and there were no finger-impressed bases. It was suggested that the primary occupation of the CAR occurred in the first-third centuries AD and that the pottery had traits in common with Sollas.

Table 8-8: Alt Chrisal ceramic phases (from Foster & Pouncett 2000a: 178)

0	Deep bowls with slightly everted rims and round bases. Neolithic.
1	Plain undecorated vessels with rounded rims. Possibly equivalent to Dun Vulan Phase 1a, 1st century BC/AD.
2a	Globular vessels with out-turned rims and footed or finger-impressed bases. Decoration includes finger impressions beneath the rim, impressed dots and incised chevrons or lattices. Equivalent to Dun Vulan Phase 2 and Sollas Phase A1, 1st-3rd century AD.
2b	Globular vessels with everted rims. Decoration includes incised feather, ladders and lattices, and applied cordons. Equivalent to Dun Vulan Phase 3, Sollas Phase A2, 1st-3rd century AD.
3	Bowls with slightly everted or simple squared rims. Decoration includes incised multiple feather motifs, herringbone and infilled triangles. Transition between applied and pinched cordons. Equivalent to Dun Vulan Phase 4 and Sollas Phase B1, 2nd-4th century AD.
4	Plan undecorated jars or globular vessels with flared rims. Equivalent to Dun Vulan Phase 6, 6th-9th century AD.
5	Simple upright rims. Decorated with impressed dots, incised lines. Norse?
6	Undecorated round-bodies vessels with slightly concave necks. Medieval.

The Middle Iron Age seems more poorly represented, despite this period exhibiting the pottery most identifiable as classically Iron Age. This is perhaps because many of the sites upon which the initial identifications were made are older excavations and as such do not have radiocarbon dates or well-established structural sequences. These sites include Clettraval (Scott 1948), Kilphedir (Lethbridge 1952), Galson (Edwards 1924), Dun Beag (Callander 1921), and Eilean Maleit (Beveridge 1911 and latterly Armit 1998). It is clear that many of these sites have forms and motifs directly comparable to those from Beirgh, Dun Vulan, Alt Chrisal and Dunan Ruadh. This period is dominated by everted rims and sees decoration based principally upon cordons and channelling.

8.2.4 The Late Iron Age

There are few assemblages from the Late Iron Age which can be directly compared with Beirgh and Bostadh, and these two sites remain the most extensively studied and best dated so far. However, some older excavations have produced assemblages of pottery, and the excavations at the Udal, although unpublished, provide the largest comparable assemblage.

One of the largest assemblages of Iron Age pottery comes from the Udal on North Uist. This was analysed by Alan Lane (1983) but as the site remains unpublished the significance of its material culture cannot at present be fully assessed. However, little has changed in the intervening period since Lane wrote in his introductory comments to his thesis that his analysis:

> "...used provisional stratigraphic information in advance of the definitive establishment of the site sequence and chronology. Sufficient definition of the site sequence was available to allow this analysis to be undertaken, but details of the relationship of finds to structures, and of fine sub-divisions of stratigraphic levels, could not be provided. In effect, this means that the pottery has had to be studied in larger stratigraphic units than may eventually be possible and that the site sequence must be accepted largely on trust and on the evidence of the published interim statements." (1983: 30).

However, Lane accomplished a great deal and the sequence can be used confidently as the broad-brush approach it had to be. Lane's analysis was significant in identifying and fully describing the Plain Style of the Late Iron Age and Norse pottery for the first time.

Lane uses the term Dark Age, beginning c.400 AD and ending in the second half of the eighth century AD to the first half of the ninth century AD, and characterised by figure-of-eight shaped structures. Structurally, the Udal Dark Age phase corresponds to Beirgh Late Iron Age and Bostadh. The end-date appears to be more secure than the start date for this phase, and Lane describes the dating of the Dark Age period to 400-800 AD as a "conceptual guide" (1983: 52) only. He disagrees with the excavator that occupation during the Iron Age was continuous and believes there was a break between the Iron Age and Dark Age. As discussed above in Section 8.1.4, the Late Iron Age period at Beirgh dates to approximately 600 to c.850 AD.

The characteristics of Dark Age pottery as described by Lane are tongue-and-groove construction, straight-sided bucket shapes and slightly shouldered jars with flaring or upright rims, flat bases, competently made, not highly fired, plain, no grass marking on surfaces, range of fabrics including a few with organic temper, bases constructed with a tongue on the basal piece to which the wall was attached. These characteristics compare well with the Beirgh and Bostadh assemblages. He suggested that bases with no tongue were Viking Age (1983: Chapter 10). Lane identified a chronological distinction between bases with angled joins as earlier and bases with tongue-and-groove joins as later pre-Norse, which appears to be borne out at Beirgh.

Lane only mentions decorated pottery in relation to the second Viking level (1983). He refers to slashed, impressed or wavy rims and a few incised and impressed body sherds. The wavy rims of course sound very similar to those moulded wavy rims (motif Oth.B) found at Beirgh in the Late Iron Age phases in small quantities. There are several alternative explanations: perhaps these sherds at the Udal are residual from the earlier Dark Age phases; perhaps this trait is Norse in origin; perhaps the Norse pick up this decorative technique from the Late Iron Age inhabitants; or perhaps the dating of this level is wrong and it does in fact belong to the Late Iron Age rather than the Norse period. Given the lack of any other recognisably Norse material at Beirgh, it seems unlikely that these decorative motifs are Norse in origin.

Dun Cuier Ware, as defined by MacKie (1974), was identified from the excavations at Dun Cuier, on Barra (Young 1956), as discussed in Chapter 1. The pottery assemblage is extensively illustrated. Long flaring rims and long everted rims are common, occasionally with cordons at the neck. There was also an assemblage of decorated pottery including everted rims, which is likely to be residual and relate to the earlier occupation of the CAR. There is no independent dating evidence available for this site. At Clettraval wheelhouse, North Uist (Scott 1948), pottery identified as being from the secondary occupation comprised flaring and upright rims typical of Lane's Plain Style.

Eilean Olabhat Phase III pottery (Campbell unpublished) is dated to the Late Iron Age and the assemblage is dominated by flaring rims. There is decoration present, in the form of double cordons on four vessels identified by Campbell (unpublished). At Eilean Olabhat, these forms are dated to the fifth/sixth centuries AD on the basis of food residue dates. Campbell suggests that at the Udal North

Hill, the latest Iron Age Plain Style is unlikely to begin before the sixth century AD (*ibid.*: 142). Further Late Iron Age forms and double-cordon decoration is found at Bornais Mound I (Campbell 2002: 142). The radiocarbon dates for this site suggest that here these forms are confined to a period of occupation bracketed between dates of the third/fourth and fifth/sixth centuries AD (Sharples 2000).

According to Campbell, Phase 3 equates to the Late Iron Age Plain Style with what he refers to as double-cordoned Dun Cuier Ware. This latter type is unusual within the Western Isles and is not easy to place. Campbell suggests that the double-cordoned vessels date to the third and fourth centuries AD, filling a gap in the sequence between the Sollas and Udal assemblages. However, radiocarbon dates of the sixth century were obtained, and this phase also contained metalworking, which ought to belong to the fifth to seventh centuries AD. Beirgh has only two examples of double wavy cordons, from Phases 2 and 3. A shouldered jar with flaring rim and a double cordon (Tabraham 1976: Fig. 6) was recovered at Dun Carloway, Lewis. Olabhat has only two certain examples of double cordons, while the other two cited are only included because they have cordons at the neck, Campbell assuming this means they had a second cordon at the shoulder. With one of the double cordons, the lower cordon has a curvilinear device attached, which looks like a double horseshoe shape while the other vessel is comprised of non-joining sherds. It seems that the only certain example of a double cordon, with the curvilinear device, is not likely to be representative enough to make interpretations of dating from.

Campbell pursuing the double cordon as a diagnostic indicator of a non-represented period seems to push the evidence too far. The double-cordoned flaring rim vessels seem much more likely to be part of the transition to flaring vessels rather than requiring a whole separate ceramic phase in itself. Furthermore, Campbell's dating (2002) leaves the decorated everted rim pottery of the Middle Iron Age squashed into the second and third centuries AD, which stretches credibility.

The appearance of Lane's Plain Style is dated to Phase 6 at Dun Vulan (see Table 8-7), the sixth to ninth centuries AD and sees a change to flaring rim vessels, with cordons the only decorative type along with applied curvilinear devices. This places the beginning of this style a century later than Lane (1983) dated it and two centuries earlier than at Beirgh and Bostadh. The radiocarbon dates from Bostadh suggest that at that site the figure-of-eight type buildings date to c. AD 700-900. Phase 5 at Beirgh, probably dating to sometime within the seventh century AD has been recognised as the transitional phase between Cellular type pottery and Late Iron Age Plain Style at this site.

8.3 Conclusions

A micro-regional sequence of pottery development, from the second half of the first millennium BC to the late first millennium AD, ending prior to the Norse period, can be observed within the four Bhaltos area sites, Bharabhat, Beirgh, Cnip and Bostadh. As discussed in Section 8.1.4 above, Bharabhat provides the earliest part of the available sequence and overlaps with the earliest excavated phases at Beirgh. Cnip provides an overlap in time with part of the Beirgh Cellular phase, while Bostadh provides a comparison with the latest phases at Beirgh, the Late Iron Age period. The west Lewis sequence could be expanded in the future to include An Dunan, Gob Eirer and Guinnerso, which would then extend the pottery sequence from the earliest Iron Age to the Medieval period.

It is clear that the Beirgh assemblage is not unique in either a west Lewis or Hebridean context. It instead belongs to a rich and varied tradition of potting which sees common elements across the Western Isles. The forms and motifs found at Beirgh and substantiated in the Bhaltos pottery sequence are generally present throughout the Western Isles and can be described as an Outer Hebridean Iron Age tradition. There does not appear to be a standardised pottery style throughout the Iron Age across the Western Isles, though the different vessel types and decorative motifs do belong to the same overall family. It appears that variety is accepted within the common theme, and perhaps even experimentation with decorative schemes was encouraged.

Currently the sensitivity of dating for the southern islands produced through residue dating cannot be replicated in the northern part of the island chain. It should not be assumed that the sequence established in the south can be directly applicable to the north, and the Bhaltos sequence suggests there are some differences. The southern sites also tend to have the beginning of the Plain Style dated much earlier, to the fifth or sixth century AD. The Beirgh or Bostadh evidence does not back this up. Another significant difference is the lack of double cordons at Beirgh, a decorative trait given much importance by Campbell as filling a gap in the fifth and sixth centuries AD. This trait is discussed in Section 8.2.2.4 above. Some of the potential discrepancies in dating may be a result of regional differences between the Hebridean islands.

9. Conclusions

A summary of the conclusions reached during this thesis is presented. The aims of this thesis, in summary, were:

1) To utilise the very long habitation sequence at Beirgh to produce a pottery sequence for this site, using an approach which gives equal weight to manufacturing techniques, decoration and form, and so determine long term patterns of change within the pottery assemblage.
2) To attempt to explain the Beirgh pottery sequence in terms of the people living out their daily lives there and using pottery as part of their routines.
3) To provide an appraisal of the chronological sequence for the ceramics of the Hebridean Iron Age, by firstly constructing a west Lewis micro-sequence and then examining its wider context.

In Chapter 1, a review of the archaeological context of, and excavated phases at, Beirgh was presented, highlighting the specific features of this site which made it so suitable for pottery analysis and for achieving the aims of this thesis. In particular, the long sequence of occupation and the well-preserved structural development showed Beirgh to encapsulate a microcosm of the more widespread structural changes happening throughout the Western Isles in the Iron Age

Chapter 2 provided a context for the study within a long history of Hebridean pottery analysis, illustrating the trends seen in pottery analysis and highlighting the gaps in our knowledge. Chapter 3 presented the methodology used in the very detailed cataloguing and analysis of the Beirgh assemblage, and provided justification for some of the methods used. It also presented descriptions of the forms and decorative motifs found in the assemblage.

Chapters 4 and 5 rehearsed the data, using a two-pronged approach, designed to analyse the data from both a phase perspective and a form perspective. This allowed patterns to be observed over a time dimension across the sub-phase divisions, which aided in identifying a pottery sequence at Beirgh. It also allowed individual forms to be analysed to aid in determining function of the pots. By combining these two approaches it was possible to gain a much clearer and more detailed understanding of the pottery sequence.

Chapter 6 provided explicit detail of the trends seen in each of the main categories of analysis (manufacture, decoration, surface deposits and deposition) and provided illustrations in graphs or tables as appropriate. It was concluded that certain categories did produce clear evidence of change (form, fabric, some manufacturing techniques, firing, and decoration), while others did not produce any strong patterning (sherd thickness, vessel size, surface deposits, abrasion, sherd size and sherd weight). A summary description of the pottery from each phase of the site was given, being the basis for a definitive sequence. This was then used in Chapter 7 as the basis for discussion of the social and economic aspects of the assemblage, and in Chapter 8 for providing comparisons with other sites throughout the Western Isles.

Table 9-1 outlines the sequence in general terms. The most significant break is seen between the Cellular and Late Iron Age phases, with a change from decorated to undecorated vessels, from everted rim to flaring rim, from pots with smoothed exteriors to those with roughened exteriors, and there is a tendency towards slightly larger rim diameters. There is a greater degree of continuity between the phases associated with the Roundhouse and Cellular period at Beirgh. However, changes include a greater reliance on cordons for decoration, an expansion in the range of cordons used, less incised and impressed decoration, and a wider variety of vessel types in circulation. It was found that Phase 5 might represent a transitional phase in terms of its pottery, even though the structural changes associated with the Late Iron Age are yet to happen. The NE Extension was suggested to include some of the earliest phases found so far at the site.

Table 9-1: Summary of principal characteristics of each major phase

Roundhouse	Cellular	Late Iron Age
• Less reliance on applied decoration, more combinations of techniques, more incision and impressed decoration, geometric motifs on upper body • Everted and holemouth types • Less strongly everted types • Fine, thin-walled • Well finished surfaces • Oxidised more common, so orange in colour • Angled slab construction most common • Smaller vessel sizes	• Applied decoration dominant • Range of cordon types present • Cordons with 'handles' • Channelled decoration • Everted, some holemouth • Lugs phase 9 and 10 • More variety of types, though decreases throughout • Well finished surfaces • Oxidised more common, so orange in colour • Angled slab construction most common • Smaller vessel sizes	• Plain except for occasional and very specific motifs: Holes along top of rim Moulded wavy rim tops • Some flaring rims with raised narrow wavy cordons/double cordons at transition • Bucket and jar shapes, some shouldered jars, flaring rims dominant • Weak profiles • Poorly finished/ roughened exterior surfaces • Unoxidised more common so brown/grey in colour • Tongue-and-groove construction • Larger vessel sizes

Chapter 7 considered a number of themes which emerged from the assemblage, and aimed to answer some of the questions most frequently asked of pottery assemblages. This followed a life history approach, resulting in discussion divided into three separate sections: manufacture, use and discard. An examination of the depositional history of Beirgh concluded that the pottery sequence obtained could be endorsed.

Chapter 8 used the Beirgh sequence as a starting point for building a west Lewis micro-sequence, using the sites of Bharabhat, Cnip and Bostadh. This showed that Beirgh, Bharabhat, Cnip and Bostadh can be linked together to provide a continuous sequence spanning the second half of the first millennium BC to c. AD800.

Further discussion followed, of the wider Hebridean context and of dating, through examination of other published excavated assemblages. This was divided into Early, Middle and Late Iron Age. The Early Middle Iron Age period was found to incorporate possibly three new ceramic phases. This chapter also demonstrated that there are many common elements throughout the Western Isles in terms of decoration, vessel shape and manufacture.

This thesis has presented for the first time a detailed account of the pottery from Loch na Beirgh, Lewis. The pottery assemblages recovered from eleven excavated phases at Beirgh have been analysed in great detail, covering the period from the third century AD to the pre-Norse period. The assemblage has been catalogued, its sequence outlined, and detailed discussion made of the changes seen within this assemblage over time. The thesis then went on to place these changes into a local and wider context. The thesis has shown that a great deal of information can be achieved through such an approach and has successfully achieved its aims

9.1 Further work

A number of themes may be suitable for further work. The principal amongst these would be thin-section analysis of the vessels and surrounding clay sources. The second would be to conduct a programme of residue dating to provide radiocarbon dates for the pots themselves in order to fine tune the pottery sequence, and to better define the dates of the phases of occupation at Beirgh. Finally, an examination of the extensive undiagnostic pottery assemblage would provide additional information on manufacturing processes identified within the diagnostic assemblage. Sherd counts and measurements of sherd size may help to clarify the formation processes of some of the deposits containing pottery.

An extensive suite of radiocarbon dates from Beirgh would enhance the work presented in this thesis and allow more refined dating of the sequence. There are few well dated Iron Age sites in the Hebrides, partly a result of many of them being older excavations. A list of dates published by Armit (1996) indicates forty-four dates in total for the pre-Norse Iron Age, from twelve different sites (including some from Skye), plus three dates taken directly from wooden objects. The dates from Beirgh and Dun Mor Vaul can be added to this list. Since then, a further thirty-one dates have been published from Dun Vulan alone (Parker Pearson & Sharples 1999). This illustrates how few sites have been subjected to a comprehensive programme of dating. The long sequences and complex deposits seen on many sites cannot be adequately dated by just one or two samples and indicates how far the subject has still to go before we can be certain of understanding the sequence of structural development in the Hebrides. The radiocarbon plateau of the first millennium BC adds a further complication to dating this period, along with the currently poorly understood marine reservoir effect.

New sites are being excavated all the time, producing new pottery assemblages and new dates for these sequences. The Beirgh pottery database and the interpretations gleaned from it are not static but will alter in the light of new excavations and new methods of analysis. The west Lewis sequence could be expanded in the future to include An Dunan, Gob Eirer and Guinnerso, once full analysis and publication has taken place, which would establish a sequence from the earliest Iron Age to the Medieval period. It is hoped that the detailed approach taken here will encourage other scholars examining Hebridean pottery to adopt a similarly detailed approach. In time, it may be possible to identify regional differences in style or chronology between the islands.

Despite all the attention and detailed analysis which surrounds pottery, it should never be forgotten that pottery vessels and objects were just part of a much wider repertoire of implements and containers, which would have included wood, bark, basketry, leather and textiles. The use of the lathe has been recorded in Britain from the early first millennium BC, while coopering is present from the mid-second millennium BC (Earwood 1993). However, few organic artefacts are ever recovered due to the need for specific depositional conditions, i.e. waterlogging. Therefore, a whole swathe of material culture is generally missing from the archaeological record, and the emphasis is understandably directed onto pottery due to its durability. Organic artefacts can include wooden spoons, ladles, pins, handles, bowls, boxes and troughs, baskets, leather bags, textile bags and sacks. It is clear that some of these types of artefact could carry out some of the functions of pottery or be used directly in conjunction with pottery. At Beirgh, the lower excavated levels were becoming wet, if not fully waterlogged, suggesting preservation of organic items lower down. Some timbers and other fragments of wood were recovered, including a possible basket. The completion of the excavations started at Beirgh would be of fantastic value, primarily in completing the pottery sequence already established but also to examine the full repertoire of vessels and implements available to the Iron Age inhabitants.

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Abbreviations used:
BAR = British Archaeological Reports
CBA = Council for British Archaeology
DES = Discovery and Excavation in Scotland
EUP = Edinburgh University Press
GAJ = Glasgow Archaeological Journal
PPS = Proceedings of the Prehistoric Society
PSAS = Proceedings of the Society of Antiquaries of Scotland
SAF = Scottish Archaeological Forum
SAIR = Scottish Archaeological Internet Reports
SEARCH = Sheffield Environmental and Archaeological Research Campaign in the Hebrides

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